The Mining Journal
RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 732.—Vol. XIX.] LONDON, SATURDAY, SEPTEMBER 1, 1849. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

PURSUANT to a DECREE of the VICE-WARDEN'S COURT, made in the consolidated causes of KITTO *v.* ROWE, STRONGMAN and OTHERS *v.* SAME, the CREDITORS, in respect of the CUBERT SILVER-LEAD MINES, in the parish of CUBERT, within the said Stannaries, are, on or before the 12th day of September next, to come in and PROVE their DEBTS before the Registrar of the said Court, at his office, in Truro; or, in default thereof, they will be excluded the benefit of the said Decree. 1

Dated Registrar's Office, Truro, August 29, 1849.

LARGE AND IMPORTANT SALE OF FREEHOLD AND LEASEHOLD ESTATES, and OTHER PROPERTY, in DENBIGHSHIRE, FLINTSHIRE, & City of CHESTER.

MR. R. W. JOHNSON feels much pleasure in having to state, that he has been instructed to OFFER FOR SALE, BY AUCTION, at the Wynnstay Arms Hotel, in WREXHAM, on Tuesday, the 25th day of September next, at the hour of Two o'clock in the afternoon, in the lots, and subject to the conditions to be then declared and produced, the very desirable 2

FREEHOLD MANSION,

MESSUAGES, FARM, LANDS, and HEREDITAMENTS, containing valuable MINES of COAL, IRONSTONE, LEAD ORE, &c.; lately the property of James Kyrke, Esq., and respectively called, or known, by the names of Upper Glascoed, Middle Glascoed, Lower Glascoed, Pentre Saison, Coin, Fymon-y-Cwm, the Waen, the Gorse, Cefn Bychan, Cefn-y-Maes, Bryntog, Cae Sheet, Cae Salisbury, Coed-y-felin (several fields, part of), and other tenements and lands, situate in the townships of Brymbo and Broughton, in the parish of Wrexham, in the county of Denbigh.

A TENEMENT and FARM, called BRYNGLAS, in the parish of Llanrhaiadr-yn-Mochnant, in the said county of Denbigh.

A MESSUAGE and LANDS, in the occupation of Mr. Samuel Davies, at the Frith, in the parish of Hope, in the county of Flint.

FOUR SUBSTANTIAL STONE COTTAGES, near the new church, at Rhos-y-Medre, in the parish of Rusbon, in the said county of Denbigh.

The QUARTER SHARE of and in the Commutation Rent Charge, in lieu of the tithes of hay and corn in the said township of Brymbo.

A large and commodious MESSUAGE, SHOP, and PREMISES, in Eastgate-street, in the City of Chester, in the occupation of Mr. Edward Peters, braxier.—Also the

LEASEHOLD ESTATES

of the said James Kyrke, in the MESSUAGES, or DWELLING-HOUSES, GARDENS, and APPURTENANCES, commonly called the ROPERY, in Bagillt, in the parish of Holywell, in the county of Flint; part whereof is underleased to the parish of Holywell.

Also in the PENYCOED and PLASMAEN COLLIERIES, in the township of Brymbo aforesaid, and the absolute INTEREST in the PLANT and MACHINERY belonging thereto, as lately offered for sale.—Also the several

SHARES

of the said James Kyrke, in the COLLIERY MINES and MACHINERY following—(that is to say), in

The BRYNMALLEY COLLIERY, near Wrexham, also lately offered for sale.

The STEDDFOD LIME WORKS and ROCKS, at Minera, also lately offered for sale.

The ENGINES and MACHINERY at the CRAIGIOG LEAD MINE, in the parish of Llanarmon-yn-Yale, in the county of Denbigh, also lately offered for sale.

The ENGINES, MACHINERY, and IMPLEMENTS, on the CITY LAND, in the township of Minera.

The ENGINES, MACHINERY, and IMPLEMENTS, upon a TENEMENT, at Minera aforesaid, belonging to R. A. Kyrke, Esq.

The POOLPARK LEAD MINE, in the parish of Wrexham.

The well-known and productive TALACRE MINE, in the county of Flint.

Also the ENTIRETY of a POLICY of INSURANCE of the Sun Life Office, for the sum of £500, payable upon the death of a party aged 51 years, or thereabouts.

Further details will be given in a future Number of the *Mining Journal*.

Printed particulars will be ready for distribution a fortnight prior to the sale; and in the meantime information may be obtained upon application to Messrs. James & Owen, solicitors, Wrexham, who will appoint persons to show the various properties.

MINES IN FLINTSHIRE.—TO BE SOLD, BY PRIVATE TREATY, by order of the trustees of the late William Williamson, Esq., of Greenfield, SHARES in the following valuable and well-known MINES, in the county of Flint—viz.:—TALARGOCH, HENDRE, TALACRE, NANT, and PARRY'S MINE (HALKIN.) Most of the above mines are so celebrated, and have been so long established, that it is unnecessary to add a word in support of their claim to public attention. 3

ON SALE also, BY PRIVATE TREATY, a MOIETY of the COAL and MINERALS under about TWENTY-EIGHT ACRES of LAND, in GWESPYR, in the parish of LLANASA, now in the occupation of —— Jones, Esq.

For information and particulars apply to Mr. Williamson, solicitor, Pendre, Holywell; Mr. William Williamson, solicitor, Well-street, Holywell; or to Mr. E. H. Williamson, Greenfield, near Holywell, Flintshire.

SALE OF MINING MATERIALS, BY PRIVATE CONTRACT, or TENDER, with or without the Lease of the Mine.—The committee of adventurers of the DEAN PRIOR AND BUCKFASTLEIGH MINES, situate in the parish of BUCKFASTLEIGH, county of DEVON, are ready to TREAT with PARTIES for the DISPOSAL of the MACHINERY and MATERIALS on the said mines; with also the LEASE, or otherwise, held under the Earl of Macclesfield, at 1-15th dues, until an engine shall be erected, and then at 1-16th dues. Some thousands of pounds have been expended on the mine, and the machinery is in the most complete and perfect order—consisting of 1 40-feet wheel, 3 feet 6 inches breast; 1 24-feet wheel, 4 feet 7 in. breast, and 1 18-feet wheel, 3 feet breast, with stampheads, grinder, 50 fathoms pumps, working barrels, windbores, &c., fixed, and other useful materials. 4

An inventory may be seen, and all information acquired, on application to Mr. H. English, mining engineer, 25, Fleet-street, London, who is empowered to treat for the disposal of the same, where specimens of the ore, with plans and sections, may be seen, and every information readily afforded.

EXTENSIVE IRON-WORKS FOR SALE, BY PRIVATE BARGAIN,

THE BLAIR IRON-WORKS, 5

Belonging to the Ayrshire Iron Company, with the whole MINERAL FIELDS held by the said company, under favourable leases, including the MALLEABLE IRON-WORKS, immediately adjoining, so far as erected—all as particularly described in former advertisements.—There is a large STOCK of IRONSTONE on the ground, which may be had at a valuation.

For further particulars apply to Mr. Biggart, at the works; Mr. Watson, 32, and Mr. Brown, 35, St. Vincent-place, Glasgow; Messrs. M'Clelland and Mackenzie, accountants, there; Messrs. Gibson-Craig, Dalziel, and Brodie, W.S., Edinburgh; or Messrs. Montgomerie and Fleming, writers, Glasgow—the last being in possession of the title-deeds.

Glasgow, June 20, 1849.

COAL.—TO BE SOLD, OR LET, either in one or more lots, all that valuable VEIN of COAL, commonly called the UPPER MOUNTAIN MINE, extending over about 1000 acres—situate in the township of GREAT HARWOOD, in the county of Lancaster. The mine has been recently proved, and found, at 77 yards from the surface, to be 5 feet in thickness, and of an excellent quality. The above property is within a short distance of the Leeds and Liverpool Canal, and in the midst of a populous and large manufacturing district. 6

A section of the borings may be seen by applying to Mr. Boosie, Rufford Hall, Ormskirk; or to Mr. Whittle, Charnock Richard, Chorley—to either of whom proposals may be sent.

VALUABLE AND EXTENSIVE MINES OF COAL AND IRONSTONE.

TO BE LET, ON LEASE, on most advantageous terms, the COAL and IRONSTONE under a very large tract of land, in the parish of RUABON in the county of DENBIGH, adjoining the Shrewsbury and Chester Railway.

The proprietors of the ESTATES on which the Ponkey and Aberderfyn Iron-Works were formerly carried on, have made arrangements TO LET BOTH PROPERTIES TOGETHER, which will give the lessee of them facilities to carry on a lucrative business—very rarely to be met with. 7

The COALS and IRONSTONE on these ESTATES may be raised at very much less than an average cost, and the quantity proved in them (besides what are under a very large portion of one of them, in which there is no doubt they will be found) is estimated will supply iron-works with materials to make 400 tons of pig-iron weekly for upwards of 30 years, as well as 50,000 tons of the much and justly-celebrated Yard and Wall and Bench Coals per annum for sale, for the same period.

Printed particulars of the property, and lithographed plans of the estates, showing the minerals under them, with calculations as to the expense of making iron from them, as compared with that of manufacturing it in Staffordshire, may be had upon application at the office of the *Mining Journal*, 26, Fleet-street; and at J. Boydell's, 54, Threadneedle-street, London; and at Messrs. Longerille and Williams, solicitors, Oswestry.

Oswestry, June 6, 1849.

JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT, 8

No. 54, THREADNEEDLE-STREET, LONDON,

HAS TO DISPOSE OF

Several PATENT RIGHTS, FREEHOLD ESTATES, LEASES of FOUNDRY and ENGINEERING WORKS, FREESTONE QUARRY, and COAL and IRONSTONE MINES. SHARES in a well-known SLATE QUARRY, the PART, or the WHOLE, of a well-established GAS WORK, and STEAM-ENGINES and MACHINERY of all descriptions.

TO ENGINEERS, BUILDERS, AND ARCHITECTS.

JAMES BOYDELL, 54, THREADNEEDLE-STREET, having been a very large manufacturer of machinery and irregular shaped iron, and having accomplished the rolling of some descriptions of the latter, thought by many to have been impracticable, will be happy to ASSIST any ENGINEERS, SHIPBUILDERS, and ARCHITECTS, in the planning of the details of what IRONWORK they may have occasion for, or bringing to perfection any invention in machinery, as well as procuring such materials for the purpose as they may require.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 9

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

BICKFORD'S PATENT SAFETY FUSE.—The Patentees of the ORIGINAL, and only real, SAFETY FUSE, beg to inform Merchants, Mine Agents, Railway Contractors, and all persons concerned in Blasting Operations, that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE *has now a thread wrought into its centre*, which being patent right, infallibly *distinguishes it from all imitations*, and ensures the continuity of the gunpowder. The Safety Fuse is now protected by a Second Patent, and manufactured by greatly improved machinery. 10

BICKFORD, SMITH, & DAVEY, Camborne, Cornwall.

WARRANTED SAFETY FUSE.—W. BRUNTON & CO. beg to inform Mine Agents, Contractors, and Merchants, that having completed their Machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE of a very superior quality, and at considerably reduced prices.

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.

Penhellick Fuse Factory, Pool, Truro, Cornwall. 11

TESTIMONIALS.

We, the undersigned, hereby bear our testimony to the excellence of the Safety Fuse, manufactured by Messrs. Brunton and Co. We have had it in use in our mines; and, after sufficient trial, find it to be fully equal to any Fuse we have ever used:—

Carn Brea Mine.
R. H. Pike, Purser.
John Lenten, James Miners, John Vivian, John James, } Agents.

North Pool Agents.
James Evans.
John Nancarrow.
Frederic Evans.

South Roskear Agents.
John Dunkin.
William Thomas.

Cook's Kitchen Agents.
Joseph Vivian.
Richard Bennetts.

Cook's Kitchen Agents.
John Ivey.
William Hitchens.

North Roskear Agents.
Joseph Vivian.
William Michell.
William Thomas.

Tincroft Agents.
Peter Floyd.
Thomas Stainsby.
Thomas Lean.
Henry Hocken.
Richard Martin.

Wheal Agar Agents.
William Nancarrow.
Alex. Eudey, Joseph Eudey.

STRUVE'S PATENT MINE VENTILATOR.

Cost—£150. 12

TO COLLIERY PROPRIETORS.

Quantity of air passed through a Mine almost unlimited, to the extent of 200,000 cubic feet per minute, if necessary—depending on size of apparatus.

COST of an APPARATUS to produce a ventilation of 20,000 cubic feet per minute, ONE HUNDRED and FIFTY POUNDS, exclusive of patent right. This amount of ventilation would be sufficient for a mine working 150 tons per day, provided it was not very fiery; in which case it would be desirable to provide for 30,000 cubic feet of air per minute. The capabilities of the Ventilator may be doubled at any future time, at a comparatively small cost.

The Ventilator has been at work for upwards of six months at the Eaglesbush Colliery, near Neath, working under a rarefaction of 2½ to 3 inches of water, which demonstrates the impracticability of furnace ventilation, when the shafts are shallow and the airways small.—It is practical to rarify a mine by this ventilator to the extent of 2 feet of water, or 2 inches of mercury.

LICENSES will be GRANTED on application to

Mr. WILLIAM PRICE STRUVE, Swansea,

Civil Engineer and Mineral Surveyor.

TO THE OWNERS OF COLLIERIES, MINES, PLANTATIONS, SAW-MILLS, &c. 13

IMPROVED CIRCULAR SAWS, MILL-SAWS, FILES,

Machine Irons, and Cutting Knives, Steel in Blister, Bar, Cast, Shear, and Drift Steel, Springs for Railways and Common Roads, Iron Washers, Bolts, Hammers, &c., on the most PERFECT and ECONOMICAL PRINCIPLES, MANUFACTURED with DISPATCH, by

BLAKE AND PARKIN,

THE MEADOW STEEL-WORKS, SHEFFIELD.

WIRE ROPE.—The Undersigned beg to inform the public, that they have become SOLE LICENSEES of Mr. ANDREW SMITH, for the MANUFACTURE and SALE of his PATENT WIRE ROPE; and having fitted their premises with his very superior improved machinery, have only to assure those who may favour them with their orders, that the same care and attention shall always be bestowed which, they have reason to believe, has secured them such general support. 14

LIGHTNING CONDUCTORS, SIGNAL CORD, and SASH LINE, always in stock.

WILKINS & WEATHERLY.

Patent Wire Rope Works, No. 30, High-street, Wapping, London.

TRELYON CONSOLIDATED MINES, comprising the SETTS OF WHEAL MARGERY AND WHEAL VENTURE, TIN AND COPPER MINES, 15

IN THE PARISHES OF ST. IVES AND LELANT, CORNWALL.

These mines, within the lands of Lord Viscount Wellesley, are divided into 200 parts, or shares, and conducted on the Cost-Book System.

PROSPECTUS.

The part formerly known by the name of WHEAL MARGERY, comprehends within its limits nearly 500 fathoms in length, and 200 fathoms in breadth, and has within its boundary three east and west lodes underlaying south, and two north and south lodes underlaying west, already discovered, in a rich brown and white mineral killas, adjoining to granite on the west, from which circumstance it is presumed the value of the sett is greatly increased. Wheal Margery is situated in one of the most productive tin and copper districts in Cornwall, and near the celebrated mines called Providence Mines, Wheal Leity, and Wheal Venture, on the south; Wheal Tronwith and St. Ives Consols, about one mile distant, on the north; and not far on the west are the productive mines of Balmoon, Wheal Reeth, Wheal Reeth Consols, Wheal Margaret, and Wheal Mary—all of which have returned large profits to the adventurers, and are now in a full state of working. Wheal Margery was partially worked, about 30 years ago, by a small pressure engine, and is said to have produced from £70,000 to £80,000 profit to the adventurers. The lode from which this large quantity of tin was taken, averages from 2 to 4 feet wide; and it is stated by several old and eminent miners, that large quantities of tin and copper ore are now to be found under the deep adit level, east of Wheal Comfort lode, and that the bottom level, west of Wheal Comfort lode, contains rich specimens of tin. A steam-engine of 30-inch cylinder would be sufficient to draw the water and stamp the stuff. Wheal Comfort lode, from which so much tin has been raised in Providence Mines, crosses this sett. East of Wheal Comfort lode, on two parallel east and west lodes, on the south side of Wheal Margery, several rich stones of tin have recently been found in a shoad-pit, worth £7 10s. per barrow. The south lode also produces rich copper ore near the cliff, embedded in white killas—a stratum of ground well known in Cornwall, that seldom or never fails to produce large quantities of mineral.

It may be proper to remark, that the local situation of Wheal Margery is very desirable, being 1 mile south of the port of St. Ives, and 3 miles north of Hayle, from either of which ports supplies may be obtained at a reasonable rate of carriage, and the produce exported on very advantageous terms.

WHEAL VENTURE is about 1½ mile south of the port of St. Ives, and 3 miles north of Hayle, and nearly adjoins Wheal Margery, and might be worked by the use of flat-rods, from Wheal Margery engine, if required. This little mine is now in working, and producing some tons of tin and copper monthly, which will more than pay the cost, and presents a considerable improvement in sinking and driving. The water is drawn by a horse engine, and the stuff by a horse-whim, and is only 34 fathoms deep. Wheal Margery deep adit is within 150 fathoms of Wheal Venture sett, and could be extended into that mine, which would come in full 30 to 40 fathoms under the present working, and would unwater five east and west, and two north and south tin and copper lodes, all embedded in a fine mineral granite.

It is believed that Trelyon Consols may be fully worked with an efficient steam-engine and stamps, for from £15 to £20 per share.

Shares may be had on application to Mr. John Rodda, Penzance.

DEVON.—HENNOCK IRON, STEEL, AND TIN MINING COMPANY. 16

ON THE COST-BOOK PRINCIPLE.

Bankers—Devon and Cornwall Bank, Exeter and Newton Abbott.

Solicitors—Messrs. Kennaway and Buckingham, Exeter.

Capital £9450, in 4500 shares, at £2 2s. each, without further calls or liability.

Deposit £1 1s. per share.

The promoters of this company propose to raise the above capital to work efficiently these very valuable mines of micaceous iron and tin ore, situate in the parish of Hennock, 12 miles west of Exeter, and 2 from Bovey Tracey, on the confines of Dartmoor.

These mines are not a new discovery, but possess the advantage of having had their merits tested to an extent that fully establishes their great capabilities, and warrants the expectation of a large trade at a highly remunerating profit.

Prospectuses and particulars supplied on application (if by letter, post-paid) to Mr. Tripp, Bedford Chambers, and of Mr. T. Sanford, Exeter; Mr. H. Luscombe, Plymouth; Mr. B. S. Stock, Bristol; Mr. C. P. Cameron, Liverpool; Mr. J. Lane, 80, Old Broad-street, Mr. Herron, 33, Clements-lane, and at the office of the *Mining Journal*, No. 26, Fleet-street, London.

WANTED to RENT a SMALL COLLIERY, having a good demand for COAL, or a SHARE in a LARGER CONCERN, where the management would be left to the advertiser, who is practically acquainted with the business.—Applications, stating terms, to be made by letter (post-paid), addressed to "A. B.," care of John Beauchamp, Esq., Wells, Somersetshire. 17

SULPHUR, OR IRON PYRITES.—TWO THOUSAND TONS of SULPHUR SMALLS TO BE SOLD CHEAP.—Apply by letter, addressed to Captain Horton, Jamaica Coffee-house, Cornhill, London. 18

STEAM-ENGINE FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, an 85-inch cylinder STEAM-ENGINE, 10-feet stroke, cope beam.—Application to be made to Messrs. Hocking and Loam, engineers, Redruth. 19

THE PROPRIETORS OF MINERAL ESTATES, who are desirous of MAKING them LUCRATIVE TO THEMSELVES, either by way of SHARES, for a definite term of years, or to SELL the SAME, may hear of CAPITALISTS who are ready to embark in such speculation, *provided* they can be tolerably well assured that success will attend such undertakings. 20

Principals only are requested to answer this advertisement.

Address (by letter, post-paid) John James Coward, Esq., Lansdowne-cresent, Bath, who will also take shares for himself, to a considerable amount, in a *bonâ fide* transaction.

TO PATENTEES AND IMPROVERS OF SMELTING OPERATIONS.—The PROPRIETORS of PATENTS, or IMPROVEMENTS, in TREATING and SMELTING METALLIC ORES, and especially of LEAD, ARGENTINE LEAD, and COPPER, are invited to TRANSMIT to me, for investigation, the details of their SPECIFICATIONS and PROCESSES, whence mutual benefits may arise. Operative smelters, communicating the details of their avocations, will be eligible, in rotation, to permanent and lucrative employment.—Address (post-paid) William Radley, Esq., chymical engineer, Tartmagne, Canton de Valais, Switzerland, confidentially. 21

Loetchen Mining and Smelting Works, Valais, Switzerland.

London, August 20, 1849.

IRON ORE.—FURNESS, LANCASHIRE—TO MINERS AND OTHERS.—LEASES of IRON ORE, in this district, will be GRANTED to PARTIES with CAPITAL, wishing to undertake the necessary trials.—For further particulars apply to J. Cranke, Esq., Ulverston.—The Furness Railway connects the mineral district with Barrow Harbour, where there is excellent accommodation for shipping the ore with certainty and dispatch, and at a moderate cost. 22

IMPORTANT AND VALUABLE SLATE QUARRY, IN CARNARVONSHIRE, TO BE LET, for such term, and on such conditions as may be agreed upon. The above quarry is situated within six miles of Bangor, and within half a mile of the celebrated Penrhyn Quarry, being, without the slightest doubt, of the same vein and metal. The undertaking would suit a joint-stock company, or a private speculator, as it can be brought into early and extensive work, at a comparatively small outlay.—For particulars apply to Mr. Elias P. Williams, Queen's Head, Bethesda, near Bangor. 23

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.; Devon Great Consols, East Wheal Rose, Tamar Consols, Tincroft, East and South Tamars, Trelawny, Treleigh, South Wheal Francis, South Basset, Stray Park, Mary Ann, Great Consols, Condurrow, and West Caradon Mines. 24

Foreign Mines: St. John del Rey, Copiapo, Santiago, United Mexican, Aiton, &c.

MR. JAMES STRIDE, MINING AGENT, AND DEALER IN SHARES, 27, *SPRING-GARDENS, LONDON.* 25

MR. GEORGE BATE, Jun., CIVIL ENGINEER AND SURVEYOR, *WOLVERHAMPTON.* 26

Offices in Queen-street, corner of Piper's-row.

N.B.—UNDERGROUND MINING SURVEYS accurately executed.

MR. HENRY VATCHER, MINING AND RAILWAY SHAREBROKER, EXETER. 27

Competent and experienced AGENTS provided to INSPECT MINES, at the shortest notice.

MR. C. S. RICHARDSON, CIVIL ENGINEER, LAND AND MINING SURVEYOR, 28

No. 15, OLD BROAD-STREET, CITY.

JAMES LANE, MINING SHARE DEALER, 29

80, *OLD BROAD-STREET, LONDON.*

CAMBORNE CONSOLS MINING COMPANY—NOTICE OF CALL.—Notice is hereby given, that the directors have this day resolved that the subscribers, or shareholders, in this company PAY, and they are hereby required to pay, on or before the 25th day of Sept. next, into the bank of Messrs. Praed and Co., 189, Fleet-street, London, a CALL of ONE POUND upon each and every share held by them in this company, and that, pursuant to article 116 of the company's Deed of Settlement, all and every share, or shares, upon which the said call of £1 per share shall not be paid within 14 days after becoming due, will be subject to absolute forfeiture. 30

By order of the board of directors, H. L. T. VON USTER, Sec.

GUADALCANAL SILVER MINING ASSOCIATION.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the shareholders in this association will be HELD at the offices, 34, Broad-street-buildings, on Wednesday, the 12th day of Sept. next, at Two o'clock precisely, to take into consideration and determine upon the raising of capital for the erection of dressing machinery, a steam-engine for winding, crushing, and stamping, and further developing the mines and newly-acquired pertenencias, and to authorise the directors of the company to take all necessary steps for the purpose. By order, H. T. RYDE, Secretary. 31

34, Broad-street-buildings, London, August 22, 1849.

NORTH FOWEY CONSOLS MINE.—All PERSONS having CLAIMS on the LATE ADVENTURE, above described, must MAKE their DEMANDS, addressed to Mr. R. Dunn, the purser, Queen's Head Hotel, St. Austell, on or before the 7th day of September next, or they will be excluded. 32

Dated August 24, 1849.

WICKLOW COPPER MINE COMPANY.—The DIVIDEND of FIVE POUNDS PER CENT., declared for the past half-year, will be PAYABLE on and after the 1st day of September next, at the offices of the company, Leinster Chambers, 43, Dame-street, and in London at the banking-house of Messrs. Puget, Bainbridge, and Co.—Dublin, August 25, 1849. 33

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a

NEW PATENT PROCESS, 34

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire.

PATENT TOUGHENED CAST-IRON (Mr. MORRIES STIRLING'S PATENT. 35

No. 1—For SMALL and MEDIUM CASTINGS.
No. 3—For HEAVY CASTINGS.
No. 3—EXTRA for ROLLS, HEAVY SHAFTS, and VERY HEAVY CASTINGS.

The above is by far the strongest Cast-Iron made, and is now being extensively used where strong castings are required.

Further particulars, testimonials, &c., may be obtained on application to

Messrs. GARDEN & MACANDREW,

27, Queen-street, Cheapside, from whom also the IRON can be PROCURED.

TO ENGINEERS AND BOILER MAKERS.—The BIRMINGHAM PATENT IRON TUBE COMPANY 36

MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam, and other purposes. All sorts of IRON GAS FITTINGS.

Works—Smethwick, near Birmingham.

London Warehouse—No. 6, Upper Thames-street.

TERRIFIC THEORY.—Professor Silliman mentions the fact, that in boring the Artesian wells in Paris, the temperature of the earth increased at the rate of one degree for every 30 feet towards the centre. Reasoning from causes known to exist, he says:—"That the whole interior portion of the earth, or, at least, a great portion of it, is an ocean of melted rock, agitated by violent winds, though I dare not affirm it, is still rendered highly probable by the phenomena of volcanoes. The facts connected with their eruption have been ascertained and placed beyond a doubt. How then, are they to be accounted for? The theory, prevalent some years since, that they are caused by the combustion of immense coal beds is perfectly puerile, and is entirely abandoned. All the coal in the world could not afford fuel enough for a single capital exhibition of Vesuvius. We must look higher than this; and I have but little doubt that the whole rests on the action of electric and galvanic principles, which are constantly in operation in the earth."

BRANDY.—One effect of the continued prevalence of cholera has been an enormous consumption of brandy. The best foreign brandy in bond has risen, in consequence, from 6d. to 9d. per gallon, and the old and choicest vintages are rapidly running off. This year the grapes have failed in France; and we may expect that Cognacs will run dear for at least a season or two. Of British brandy, the demand has naturally fallen upon the *Patent*, which is prescribed at the hospitals in preference to any other. The distillers of that article, Betts and Co., we are informed, are obliged to keep their establishment open several hours a day longer, to enable them to meet the demand.—*Wakefield Journal.*

A NOVEL AND USEFUL INVENTION.—On Saturday, an invention was exhibited at the engine factory of the inventor, Mr. Kean, Saltgrass, Deptford, Sunderland, consisting of a machine for making bricks and tiles. The apparatus consists of an iron cylinder, which receives the clay at the top, and passes it through a number of knives, attached to a centre shaft. These act as temperers or cutters of the clay, and press it into a peculiarly formed screw; which, in turn, gives pressure to an endless chain of moulds, passing up an inclined plane; and the bricks are delivered on a table in quick succession, all ready moulded, and in a state perfectly fit for the bench. The whole of the motive power is communicated from an upright shaft in the cylinder. The machine is calculated to make 20,000 bricks in a day, by the application of an engine of three-horse power. It can be worked by any motive power, and easily removed from place to place. It is also capable of making tiles, fire-bricks, and patent fuel. During the day the machine was visited by a number of scientific gentlemen, and also by several practical men from various brick-making establishments; and the general opinion seemed to be that it was one of the most complete pieces of machinery for the making of bricks that had ever been exhibited.—*Gateshead Observer.*

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REVIEWS OF THE WORK.

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PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. This section is illustrated by 17 coloured engravings.—PART THE FOURTH contains a prescription for the prevention of disease by a simple application, by which the danger of infection is obviated. This important part of the work should not escape the reader's notice.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

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GOVERNMENT REPORTS ON MINING DISTRICTS.

ABSTRACT OF REPORT ON THE MINING DISTRICTS OF NORTHUMBERLAND, DURHAM, LANARKSHIRE, AND OTHER PARTS OF SCOTLAND AND DERBYSHIRE.—BY SEYMOUR TREMENHEERE, ESQ.—SUBMITTED TO SIR GEO. GREY, BART., SECRETARY FOR THE HOME DEPARTMENT.

The report, which extends to a considerable length, contains much general information connected with the labouring classes, and points out the improvements which have taken place of late years, the advances made, the prejudices which exist, and offers suggestions for the future. It will be our province, in rendering an abstract of the report, to avoid the omission of any one subject treated upon, at the same time that our object will be that of condensing the matter in a space more likely to be read, and to excite that attention which as a whole it well merits. Having adverted to the improvement of the colliery operations in Northumberland and Durham, Mr. Tremenheere observes, that 20 years ago it was a common habit for the colliers to be employed underground for 14 and 16 hours out of the 24, and but a small proportion could either read or write; while, with scarcely any stimulus to intellectual exertion, and with few proofs of sympathy or assistance on the part of their employers, their ideas were naturally contracted, which cannot be more strongly displayed than by a reference to the series of "strikes," which took place in 1826, 1831, 1832, and 1844, which, severe as may be the loss inflicted on their employers, brought still greater loss upon themselves, by causing permanent additions of 25 to 30 per cent. to the number of their competitors in the labour market. Since the disastrous consequences of the latter year, a great change, however, has been observable throughout the district; and during the last five years the several owners and managers of the extensive collieries of these two counties (Northumberland and Durham) have entered with zeal into every measure tending to the improvement of the population. It would appear, however, that the colliers have not taken advantage to the extent that had been hoped for of the facilities afforded for their own and their children's improvement, but which is readily accounted for by the prejudices and ignorance of those whose early life was almost passed entirely underground, and who cannot be expected to put a proper value on the blessings of education. Mr. Tremenheere considers that much good is to be effected by a change in the system as effects scholastic education—viz., by the appointment of well-trained teachers, believing that too low an estimate has been formed of the qualifications necessary to fulfill the duties.

It has been estimated that a capital of not less than 10,000,000*l.* is employed in the coal trade of these two counties, exclusive of that in the several new iron-works that have already risen into importance. The number of collieries is about 140, in each of which there are (observes Mr. Tremenheere) perhaps three subordinate situations of authority and trust, filled by men selected from among the most orderly and intelligent of the pitmen. Upon the right discharge of their duties depends, to a considerable extent, the economical working, the discipline, and even the safety of the pits, and hence the importance that such men should not only be trustworthy, but that they should possess a degree of argument and intelligence much above the ordinary level. There is an acknowledged want of men properly qualified for a large portion of these situations, and no means have yet been taken with the special view of supplying this want. Mr. Tremenheere proceeds to offer his opinions as to the best course to be pursued, recommending that exhibitions or rewards of 3*l.* or 4*l.* a year should be given to a few of the most advanced and intelligent boys of the highest class, on condition of their passing at the end of each year, a certain examination in the ordinary rudiments of education, including a fair acquaintance with arithmetic and with the elements of mechanics. This he considers would induce their parents to allow them to remain at the day schools, which they now almost invariably leave too early, until the age of between 13 and 14; when they would commence work in the pits. On this subject we would direct that gentleman's attention to an article in the *Mining Almanac*, page 159, treating on the Weardale Miners' Improvement Society, instituted by T. Sopwith, Esq., F.R.S., principal agent of Mr. Beaumont's mines in Northumberland and Durham, which we consider far more practicable than the suggestions put forward by Mr. Tremenheere. It is unnecessary to follow his recommendation on theory, as to lectures, and the putting by of a "few pounds" a year, so as to enable the collier, at the age of 18 or 20, to "suspend his employment in the pits for six months, and devote himself to scientific pursuits, "availing themselves daily of the various railways, which would, in most instances, enable the young men to continue to live at home, or boarding for that time at Newcastle, or near it."

Mr. Tremenheere tells us that he has discussed the subject with several of the most influential persons, and believes there is a strong disposition to unite—it being, as he was given to understand, "from want of concert with the coal trade in general that some similar attempt failed at Durham a few years ago;" and such we apprehend would again be the case, notwithstanding the "disposition" of several to unite. Nothing but a public establishment, as a school of mines, with local branches, and on the principle adopted on the continent, will ever cure the evil, for such we consider it, as attendant on want of education. It must be the act of the Minister—it must be compulsory as a tax on the master—and it must be compulsory on the working man, as enforcing the attendance of his children at a national school in the mining districts, where the masters should be selected, with the view to their labours being directed to the peculiar position of the localities in which they may be placed. Mr. Tremenheere refers to the Museum of Practical Geology, as presenting a school where information may be collated; but we doubt much whether that gentleman has well weighed the advantages and disadvantages attendant on his recommendation. We see but few of the former; while the latter sadly preponderate. With reference to the ventilation of mines, that gentleman observes, that "there is no part of the kingdom where the proposition to appoint properly qualified persons to inspect and report upon the state of the underground workings on the part of the Government, with a view, if possible, to diminish the frequency of explosions, and improve the quality of the air in the pits, has been more readily and zealously received than in the two counties already referred to."

In speaking of the Consett Iron-Works, some statistics are given, which will be read with interest. These works were commenced in the autumn of 1841; and in the course of five years 14 blast-furnaces, with rolling-mills, capable of making from 1400 to 1500 tons of bar-iron plates, &c., per week, were erected, together with 1300 houses, belonging to the company—the population in this short space of time having increased to 15,000. The details are of so interesting a character, as to indace us to give insertion in another place to them, so as not unnecessarily to extend our notice of the report under review. Four sorts of coal are raised—house coal and steam coal, for which the demand varies with the time of year, coking and manufacturing coal and gas coal, for which the demand is steady and advancing. Wages are little affected by the steady demand for the latter class of coal, in consequence of the amount of surplus labour in the trade always seeking for employ. The rapid increase in the coking coal trade, since the railway came into general operation, is remarkable. It is estimated that upwards of 700,000 tons of coal are annually made into coke in these two counties, from which the supply for this country and the continent is chiefly drawn. The seams used are two of the lowest in the series, altered in quality, near the crop. They produce from 56 to 68 per cent. of coke, after from 60 to near 80 hours' burning. The two largest establishments are those of Mr. Nicholas Wood, at Marley Hill, near Newcastle, and Mr. Pease, near Darlington. These supply upwards of half the quantity produced. The rest is made at the works of Mr. Stobart, of Athericy, Mr. Ramsay, Mr. Gibson, the Brandspeth Company, and the Northern Miners' Company. The principal seam made use of was abandoned as unprofitable in 1815.

In 1841-2, the Marley Hill Works were begun to be built, and the first coke was made in 1845. There are now 424 ovens there and at their works adjoining, and 200 more are about to be added; they have also 200 more at different parts of the country. They compete with the Belgium coke even in Belgium itself and in Germany—the foreign coke being inferior, as producing scoria, choking the bars, and obstructing the draught. The Marley Hill Colliery produces about 900 tons of coal per day, or 280,800 tons per annum yielding about 187,000 tons of coke. The colliers work in two shifts of eight hours each. A population of about 2000 reside close to the works.

In reporting on the Lanarksaire district, Mr. Tremenheere observes that, since his previous visit, every year has been marked with decided efforts at improvement, and there is no part of the mining districts of the kingdom which he has revisited which affords him so much satisfaction—the proprietors and managers of the several establishments most cordially entering into the consideration of every question that concerns the physical and moral improvement of the people. In 1821 the population of the two parishes of Old and New Monkland, the chief seat of manufacture in this county, was 12,000; in 1631 it had increased to 20,000, and in 1841 was 40,000. In 1844 there were 53 iron furnaces; by the published accounts of the trade for December, 1848, the number had increased to 63, and the population is probably now not far short of 50,000. Great improvements have been made in every respect, and civilisation is progressing. A far better understanding exists between the masters and the men on the question of wages, as whenever a difference arises as to the rate which should be paid, either as to an advance, or reduction, the question is talked over, and argued quietly between the masters, or their agents, and a deputation from the workmen, and the reasons, *pro* and *con.*, advanced, and met, so that in most instances an amicable settlement results, the reasons being given where reductions take place, as justifying the course pursued; while in cases where an advance is made, and that, in many cases, without being required on the part of the collier, it is hardly necessary to state that but little difference of opinion is found to exist, or objections raised. The number of schools is now increasing yearly, places of worship erected, lending libraries established, and the varied adjuncts which render a people contented and happy. It is, however, a source of regret that, with a population of upwards of 40,000, there is no institution, in the nature of a hospital, in cases of accidents, which are of a frequent and serious character, the sufferers having to be taken to Glasgow, a distance of some 12 or 14 miles. The erection of a barrack is strongly recommended by Mr. Tremenheere, there being no accommodation for troops. Baths and wash-houses are about being established. The serious evils attendant the facilities afforded in obtaining licenses for the sale of spirituous liquors in Scotland, which tends to degrade in moral estimation, and to deprive the collier and his family of those comforts they might otherwise enjoy, is treated on at some length, a vast amount of money being spent in ardent spirits, and forming a large proportion of the wages paid in the district. Mr. Tremenheere states at 250,000*l.* a year, by nine large works alone in 1844. The increase of rates has exceeded all anticipation, and which, it is to be feared is, in a great measure, attributable to the vicious indulgence, to which alone was to be attributed no less than 2400 persons being charged, and 2200 convicted in one year (1845). As an instance of the increase, Mr. Tremenheere states, that it appears by the books of one of the large works that, previous to the new law coming into force, the assessment was 35*l.* per annum. Under the first year of its operation (1844-45) it had increased to 70*l.*; 1845-46, 95*l.*; 1846-47, 94*l.*; 1847-48, 135*l.*; 1848-49, 150*l.*; the rate of relief remaining the same, the increase must, therefore, be attributed to the increased and increasing number of applicants. A remarkable instance of a successful attempt to put a check upon the indulgence in ardent spirits has, however, occurred at the iron-works of Messrs. Houldsworth, of Coltness, employing about 800 workmen. About three years since they forbade the sale of spirits at the store, and at the inn, at their works, and ordered that the furnacemen should not be allowed to drink spirits during their hours of labour. This has been attended with most happy results, and to the advantage of both masters and men.

The ventilation of the collieries had been of late attended to with more care, Mr. John Geddes, of Edinburgh, and Mr. Neil Robson, of Glasgow, being the chief "consulting engineers." It appears that, in Scotland, there are about 400 working coal and ironstone pits—viz.: Ayrshire, 100 pits; Lanarkshire, 150; Renfrewshire, 13; Perthshire, 15; Fifeshire, 93; Dumfriesshire, 5; the Lothians, 61—making together 379 pits; the depth of which may be taken at from 10 to 178 fathoms, and the fiery districts may be said to be Lanarkshire, Renfrewshire, and Stirlingshire; the general impression seems to be that, although the ventilation of the mines in Scotland is now much better than it was, there are still several that are "badly laid out," and so ill supplied with air, as materially to affect the health and endanger the lives of the people employed in them. With regard to plans, Mr. Tremenheere observes, that numerous instances arise showing the public and private disadvantage occuring from the want of them. Some 20 years ago, not one-third of the mines and collieries had any, now about four-fifths take this proper precaution; while in the remainder accidents are frequently occurring, from the absence of any data or reference.

Mr. Tremenheere proceeds to remark on the education of overmen, which he considers far more easy in its application, from the Scotch parochial schools having the advantage of masters of far superior attainments to the average of English schools; indeed, he continues, there are few exceptions where there are not some boys of from nine to twelve years old learning Latin. In adverting to the self-imposed restrictions of labour, so obstinately adhered to by a large majority of the colliers and miners in Lanarkshire, Mr. Tremenheere observes, that this combination does not appear to be discouraged by some of the employers, who raise coal for sale under an impression that, by limiting the supply, they may keep up the price. This attempt, however, he very justly adds, can scarcely be successful, now that railway communications have so much increased the means of competition. He adds that, by the restriction thus put on labour, an injury is in fact sustained by the employer and the employed, there being more men necessarily engaged than otherwise would be necessary did they do a fair day's work, the earnings at present being much lower than they would have been had it not been for this system being observed, wages being lower than they have been known for the past 15 years. A question has been mooted, and which Mr. Tremenheere considers one of "the signs of an improved feeling in this district, as to all that concerns the well being of society, that of the revival in a very good spirit of the question, whether the iron *furnaces* cannot be *stopped on Sundays.*" Some of the leading ironmasters, Messrs. Baird and others, having long since followed this practice, their furnaces being stopped for *eight* hours on the Sunday.

Mr. Tremenheere very properly states, that objections have been raised by others to adopting this course, on the ground generally that the material they use is of a different nature, and would not bear the cooling without injury to the quality of the iron, or the furnace, which we can very readily understand. Mr. Wilson, proprietor of the Dundyvan Iron-Works, and others in Linlithgowshire and Ayrshire—consequently, representing nearly the most important and extensive interests in the iron trade of Scotland—observes, "That the late improvement in the construction of furnaces, and in the machinery for blowing them, and particularly the introduction of the hot-blast, would enable furnaces to 'stand' for 12 or even 24 hours without injury. The rolling-mills usually throughout the kingdom, do suspend work on Sundays; but (he continues) the Legislature might with propriety be called upon to pass an Act, compelling the suspension of labour on that day in all blast-furnaces, rolling-mills, foundries, steam-engines, manufactories, mines, and collieries."

Mr. Tremenheere recommends, in those localities where there is an influx of labour, that well-regulated lodging-houses should be established for young men who come from a distance. He observes with satisfaction on the increased attention directed to female education, as tending much to the improvement of the mining population, the late depression of the iron trade has checked the increase of the mining population, which had begun so rapidly a few years ago. The employment of females in the pits, and boys under 10 years of age, were but of seldom occurrence, and much difficulty, in the former instance, arose in bringing home proofs; while, in the latter, there is a jealous feeling on the part of the colliers, whereby they prevent one another from having an undue advantage, which would result from the employment of children. In speaking of Derbyshire, Mr. Tremenheere observes, that the spirit of progress in all that regards the physical comfort and moral improvement of the workpeople, observed by him in 1846, is still conspicuous, and affords a striking contrast to the colliery villages in Lanarkshire. Savings funds have been established; that of the Stavely Works (three years), amounting to 600*l.*, and the Butterley Company have, in a most praiseworthy manner, issued a notice that, as regards education, "In those cases where a family is large, and the father in such circumstances as may be considered to require aid, some assistance will be given towards school expenses, on a proper application being made; and the Butterley Company wish it to be fully understood, for the future, that they will in all cases give a preference to those parents who have sent their children to school, and to those young men who have been well educated." The natural result of the sympathy and kindly feeling on the part of the masters is, the creation of a feeling of confidence which the working colliers display by avoiding all connection with the Union delegates, relying on his employers for ample justice being done him, and with whom there is a general understanding. Mr. Tremenheere, in closing his report, adverts to the class of writings or publications which are placed in the hands of the operative, whose object too frequent is to prove that all the rest of society is in league against the poor, seizing upon every topic by which feelings of envy and jealousy can be encouraged and embittered. We shall not attempt to follow the worthy commissioner in his remarks on the subject, for we could have wished his closing observations would have been of a more cheering nature. He has, however, expressed himself in a manner which he considers best calculated to promote the object he has in view, and we trust it may have the desired effect. To the concluding paragraph we must give our full accordance, in the belief that Mr. Tremenheere's hope will be borne through, and re-echoed throughout the mining and colliery districts; and with the quotation of that gentleman's last words, we take leave of the report, which we recommend to the perusal of those interested in collieries, or possessing the common feelings of humanity, and a desire to succour and support those whose position precludes them from enjoying those comforts attendant on the numerous stations of society, where education and a more intimate knowledge of the world enables them to soar above their fellow-creatures, whose lives are spent for the most part underground, hidden from the light of day.

Mr. Tremenheere thus concludes—"It is to be hoped—and there are certainly examples enough among communities of the labouring classes to prove—that in proportion to the diffusion of really valuable education among them, the superficial presumption and the evil passions displayed in a certain class of writings will diminish in influence."

FRANKLIN COXWORTHY'S DISCOVERIES IN NATURAL PHILOSOPHY.—No. V.

We endeavoured, in our preceding paper, to convey to our readers a general idea of the quantity of ammonia that must necessarily be formed, by the combination with hydrogen, of the vast amount of nitrogen that is annually liberated from the atmosphere by combustion and respiration; taking, as data, the fact that by the combustion of the 35,000,000 tons of nitrogen must be evolved. And as this gas, in its conversion into ammonia, combines with about one-fifth of its own weight of hydrogen, or 76,000,000 tons, we have yet to show that there exists good reason for assuming that a bulk of hydrogen passes to the upper regions, equivalent to the quantity of nitrogen that must be liberated daily throughout the world. This we shall have no difficulty in doing, upon unexceptionable evidence.

In Dr. Silliman's *American Journal of Science and Arts* for July, 1840, an interesting account is published of the enormous amount of carburetted hydrogen which is generated during the decomposition of vegetable matter in water. Having described the circumstances that induced him to collect and burn some gas, which was escaping from a pond in which the students of West Town Boarding-school, Chester County, Pennsylvania, were in the habit of bathing, he goes on to observe that he induced some of the boys to bathe, in the evening, under a promise that he would set the pond on fire without injuring them, and then says that:—"The usual preparation for bathing being made, some 50 of the less timid entered the water, with the injunction to step as lightly as possible, till the pond was discovered to be on fire, when all would be at liberty to proceed as would be astuit their inclinations. We soon came to a favourable spot, and the gas beginning to come up pretty freely, a lighted taper was brought near the surface, when in an instant a lambent flame played upon our unprotected bodies, and cast a gloomy light upon the surrounding forest, disclosing here and there, amid the thick underbrush, the pale faces of their abouting companions who remained upon the bank. In the hurry, the injunction to step lightly was forgotten, and the general stir of the leaves which took place extricated the gas in such abundance that the flame rose several feet above our heads. As they separated from me, I raised my feet from the bottom, and found it much more difficult to suppress my laughter than to extinguish the flames." That this gas escapes in large quantities during the decomposition of vegetable matter, the reader may very readily ascertain, by filling an ordinary tumbler with water in a ditch containing leaves in a decomposing state, inverting, and then raising it until nearly lifted out of the water; and, lastly, stirring the muddy water under the tumbler, the gas will be found to ascend in it, until the water is entirely displaced.

Those who cannot conveniently make the experiment, may prefer the testimony of the distinguished M. Boussingault, who, among other statements made by him to the French Academy of Sciences, observes that the decomposition of vegetable matter invariably produces carburetted hydrogen; that this gas arises from all swamps; that it is produced in the greatest abundance under geological circumstances but little known; that near the Canadian lakes there are several burning springs; that in some parts of the United States this gas escapes from the earth so abundantly, as to be applied to domestic purposes; that in Italy and Sicily such burning springs also exist; that in Asia the quantity so evolved is prodigious; that, as an illustration, M. Imbert had communicated to M. Humboldt the fact of his having set fire to a stream of gas, issuing from the earth, which produced a flame two feet in height by one in diameter; and that, therefore, putting the ascertained existence of this gas in so many places, and in such immeasurable quantities, with the unexamined portions of the globe, the amount actually liberated must almost baffle computation. Analogy alone can aid us in this instance; and we think we have advanced quite enough to obtain the reader's acquiescence in our conclusions, that the volume of hydrogen liberated from the earth, as a light carburet, is chemically equivalent to the nitrogen liberated by combustion and respiration.—In our next we hope to conclude this portion of the subject—the elucidation of Franklin Coxworthy's two first propositions.—S: *Cheltenham Journal.*

SUSPENSION BRIDGE OVER THE DNEIPER.—A most interesting and beautiful model of the great suspension bridge which the Emperor of Russia is about to have constructed over the Dneiper, at Kieff, has recently been exhibited. It will be recollected that some time ago, in crossing the river there, the Emperor nearly lost his life, and that some of his attendants were drowned. The work, however, and this incident has probably hastened its execution, is designed for great political and military purposes, being intended to facilitate the communication between Russia and Poland, and terminating on the Russian side with a swivel bridge, by which a retreating army can in a moment cut off the communication with the opposite bank. When completed it will be the longest suspension bridge in the world—half an English mile in length. It will have six bays, four of them 444 feet long, and two 222 feet. The roadway will be 34 feet wide, and the footpath 6 feet. The swivel bridge will communicate with the rest of the structure by an island formed of masonry, and constructed so that any injury to the chains fastened within it can be easily rectified. The whole work will occupy the space of about five years in completion. As to the model which has been prepared in this country for the Emperor, and is about to be dispatched to Russia, it is perhaps the most complete and beautiful thing of the kind ever executed, and reflects the highest credit upon Mr. James, of Broadwall, Stamford-street, who made it, and at whose premises it has been exhibited. It is constructed on the scale of one-eighth of an inch to the foot, is covered with a splendid glass-case, and rests upon a stand of the most finished workmanship. The flow of the Dneiper is represented by a mirror, wherein the exquisite workmanship of the model bridge above is reflected, and care has been taken also to mark the depth of the river, which is at some points 60 feet. No doubt, from the situation in which it is to be constructed, the work when finished will be strongly fortified, each of the huge piers on which the chains are swung being mounted with cannon, and the approaches also being protected by batteries.

A PERSON 75 YEARS OLD CURED OF A BAD LEG BY HOLLOWAY'S OINTMENT AND PILLS.—Mrs. Larendon, of No. 2, Richardson's-buildings, Croswell-street, ever since giving birth to twins, 34 years ago, had suffered with dreadful wounds in her leg, and which several medical men, both in France and England, had been unable to cure; her sufferings were intense, and oftentimes she was, during long periods, wholly confined to her bed. Ultimately, by the advice of her friends, she made a trial of Holloway's Ointment and Pills, and these celebrated remedies have completely healed her wounds, and she can walk about with the greatest ease and comfort. Sold by all vendors of medicines, and at Professor Holloway's establishment, 244, Strand, London. 41

THE PRINCIPALITY OF WALES

BRIEFLY CONSIDERED, WITH REGARD TO ITS PHYSICAL FEATURES, SOCIAL CONDITION, AGRICULTURAL CAPACITIES, GEOLOGICAL STRUCTURE, AND MINERAL RESOURCES.—NO. IV.

BY JOSEPH HOLDSWORTH, ESQ., M.G.S.F., &c.

[Concluded from last week's Mining Journal.]

Proceeding to the westward, along the shores of the Irish Sea, we encounter ere long the huge boldly swelling masses of the mountain limestone formation, reposing on the transition slate—so recently the main field of our geognostic and mineralogical investigations—and trending in a west south-westerly direction along the connecting borders of Denbighshire and Flintshire. The greater part of this carboniferous limestone tract is the well-known repository of a great number of very productive lead mines; especially in the elevated district approaching the neighbourhood of Holywell: some of the ore contains silver enough to repay with profit the expense of separating it from the lead. The last year's produce of these mines amounted to 1056 tons of ore. Judging from the rich accumulations, bunches, and courses of lead ore with which many of the lodes are here charged, we may presume that the so called metalliferous channels traversing the beds of this limestone formation are—as in some parts of Cardiganshire—both rich and numerous. And we may here take occasion to observe, it has been well ascertained that the metallic or non-metallic character of the lodes, depends on the rich or barren character of the rocks they traverse; and also that the nature of the minerals and accompanying matrix changes with the changes of the rocks intersected by such lodes, or "right running" fissures. Every mining district have their conducting metalliferous channels, the general bearing of which it is most important to know. Even some of the beds of the same rocks are more productive than others, and these are called by miners "bearing measures." It is also well known, that the miners' old rule in Cornwall is that "parallel lodes produce parallel bunches." These, and other facts which might be adduced as touching the filling of metallic lodes, greatly countenance the opinion, now pretty generally entertained, that the east and west, or great ore-bearing veins, owe their mineral contents to the meridional action of the metalliferous currents through the pores of the rocks, in their course from south to north. Subterranean magnetic currents have, by actual direct experiment, been ascertained to exist beyond a doubt. To this slight digression, we may just add that the metalliferous character of the channels is said to depend principally on a primary porphyritic base. Porphyritic traps are sometimes productive. Similar rocks are common in North Wales.

We have now only to name the Flintshire coal-field, as terminating to the northward, the grand series of mineral repositories we have particularised as existing in the principality. This carbonaceous tract extends from Mostyn, in the above county, to Chirk, in Denbighshire; it is bordered on the south by the mountain limestone and chert, which emerges from beneath it, and to the north, the basements of its elevated and deeply denudated escarpments are washed by the estuary of the Dee. In some portions of this field 15 seams of coal have been proved, making together the extraordinary thickness of *nineteen yards two feet!* as being interspersed throughout a depth of only 216 yards. They are often found from four to six feet in thickness, and many of them are of an excellent quality, frequently containing above 90 per cent. of combustible matter. Ironstone and a superior kind of siliceous freestone also abounds in this coal-measure tract. A rich hematitic iron ore is found in the mountain limestone. This division of Wales also owes its present bustling and prosperous aspect, and commercial importance, almost entirely to its mineral productions.

Our review of these magnificent mineral resources has necessarily been but an imperfect and partial one; but we flatter ourselves that in this subterreous department alone, we have made out a very strong case in favour of our position, and fully realised the declaration with which we set out—namely, that the natural capacities of the principality could not fail, on an impartial investigation, to entitle it to be considered, for its extent, as one of the most invaluable territorial appendages of the British Crown. The very few instances which we *have* pointed out of the many remarkable mineral discoveries already made in this country, have been adduced chiefly with a view to the encouragement of enterprising research; for, surely, it would be folly to suppose that many such treasures will not reward the diligence and perseverance of the future adventurer. The field is a *wide one*; and even from the comparatively scanty and too often inefficient actual explorations made of its entombed wealth, we may justly designate it a *noble one*; nevertheless, when, as already intimated, we cast our eyes over its general external condition, whether of ornamental or industrial appliances, we are apt to heave an involuntary sigh, and wonder that we do not behold—in woods, towns, villages, and teeming fields—the more palpable evidences of a long happily wrought, if not rapid, social progression. History informs us, that the Welsh mountaineers of old, looking from their native heights, and beholding the sun setting amid golden glories over the waters of the western sea, they placed their UTOPIAN REALM far away upon those sunset waves! They called it *Gwerdonnan Lian*—the Green Isle of Ocean. And many were the longings to reach its happy shores, which they believed accessible to them. It is, in short, on record that several expeditions were undertaken for the discovery of these happy islands. The first by Madoc, a Welsh prince; the second was that of Prince Gafran, who avowedly went in search of the *Gwerdonnan Lian*; and the third was that of the far-famed Merlin, and his bards, who likewise voyaged to the west; and really, it would almost appear that, for the most part, the descendants of these anxious longers after brighter lands have also, in their generation, forsaken the *real* for the *ideal*; and whilst their feet have literally been daily treading on the sparkling ores of lead, copper, gold, silver, and other mineral riches, some of which so commonly crop out to the very surface, amongst their own hills, and dales, and mountains, their eyes, and hopes, and efforts, have been directed to some chimerical *Gwerdonnan Lian*, or distant glittering California—at all events, certainly not to any effectual or spirited development either of the agricultural or mineral resources, which we have endeavoured to demonstrate, positively abound amid the Alpine regions and the green hills of Cambria.

As regards the early mining enterprise, the Romans have left many proofs of their having been somewhat extensively engaged in such pursuits in Wales; and it is believed that the ancient Britons, at some uncertain period, perhaps long prior to the invasion of the Romish legions, directed their attention to these palpable sources of native wealth. But the vast majority of these trials, on account of the defective state of the arts, &c., at that early period, can only be regarded as mere superficial scratches, —a consideration which may, in some measure, account for the *multiplicity* of these old partial workings, which are to this day to be seen in the metalliferous districts. They, however, manifest a considerable degree of sagacity and skill in discovering the indications and tracing the lodes, on many of which their very circumscribed efforts are still so discernible; and it is somewhat singular, and as not saying much in favour of modern explorations, that nearly all the mines now in the course of working are commenced on the site of those early, or infantine, operations.

For several centuries prior to the reign of Elizabeth, the mines appear to have lain dormant; but from that time to about 1744, considerable activity prevailed amongst them, especially in Cardiganshire, where (chiefly on the extensive estates of Pryse Pryse, Esq., M.P.) Sir Hugh Middleton —whose profit from one mine alone, the *Cwmsymlog*, has been estimated at 2000*l.* per month—Mr. Bushel, Sir Francis Godolphin, and some others, carried on their mining operations with much spirit; and, shall we not say almost as a *natural consequence*, great success? For nearly 100 years, subsequent to this period, the teeming mines of this region have been suffered to remain almost wholly untouched; and it is but within the last 15 or 20 years that any effective operations have been recommenced upon them, and which, as we have already briefly shown, have been most amply rewarded.

The railways—those mighty engines of social progress, breakers up of exclusiveness, and effectual rooters-out of all retardative and antiquated prejudices—are beginning to extend their ramifications deep into the secluded recesses of the principality. The thunders of the locomotive are already heard resounding through her rocky solitudes, and awakening her more homely and plodding sons to a sense of the necessity of shaking off the lethargic dust of ages, and of joining heart and hand in the busy *mêlée* of intellectual progress and practical improvement, and which, art and science, despite their rocky bulwarks, have succeeded in bringing to their very doors!

We must not, however, omit to record the honour which we think due to the Cambrian of the more commercial south, in being the first to make a *bond fide* practical essay of this revolutionising invention; for in an old chronicle of Merthyr Tydvil, we find it stated, that "on the 21st of Feb., 1804, a waggon was put in motion by the power of *steam*, conveyed a distances of nine miles with great expedition, loaded with 10 tons of iron and 70 persons!" Here, then, we have a signally successful example, made 45 years ago, of that wondrous system, which, but within the last few years, has been actually adapted to the public service, and whose marvellous social, commercial, and political effects are rapidly changing the aspect and character of all mundane matters.

How slow are mankind in casting off the film of prejudice; how suspicious of all things that may be tinged with the leaven of innovation; how reluctant to step from the beaten paths of custom, even into the car which the genius of intelligence assures them will bear them to the goal of triumph!—an eminence already so glorious, that whole nations "now ride on vapour, speak by the lightning, and have their portraits taken by a sunbeam!!" We suppose, however, there is an appointed, good time for all things; and we cannot help thinking that the prejudicial barriers of Cambrian "nationality" being already forced, and the pregnant principles of intelligence and knowledge being on the eve of universal dissemination throughout this beautiful and diversified land, that the present juncture issues in the dawn of that substantial prosperity which will, ere long, extend itself even to the hearths of the now needy and benighted peasantry.

Poverty is much complained of in Wales, and the niggardliness of *Nature* is very commonly asserted to be the primary cause. But we would suggest, and trust we have now pretty well demonstrated (not to recur to the reclaimable wastes and improveable cultivated tracts), that wheresoever she has been less lavish of her bounteous gifts on the surface, she has, in accordance with her compensating law, here very amply stored the bowels of the earth with her invaluable treasures—mighty elements of human success and happiness; and we would earnestly submit to the lords of the soil, that as they desire the prosperity of their country, so will they, casting aside all petty considerations, facilitate the discovery and proper extraction of its mineral riches, especially by granting leases on terms of liberality commensurate with the outlay, risk, and effective performance of such undertakings, and that they extend this reasonable boon of encouragement to all, native or foreigner, who may dedicate themselves to the exploration and the development of these great national resources. They will not only thereby be risklessly securing a high probability of greatly enhancing their own private interests, but, generally speaking, wherever a due success crowns the efforts of the adventurer, the surrounding country will, as we have abundantly testified, soon blossom as the rose, the cheerless and desert waste will be thickly studded over with domestic hearths, and towns increase or start into being, which will eventually swarm with an industrious and prospering population, together imparting a vast and becoming importance to the principality of Wales.—*Wales, August*, 1849.

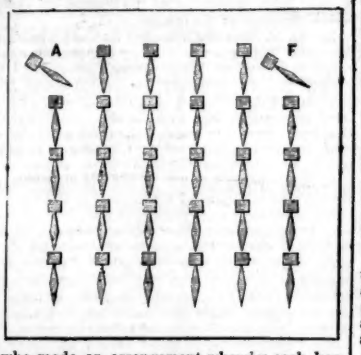
A FEW REMARKABLE FACTS ABOUT ELECTRICITY AND ELECTRIC TELEGRAPHS.—No. III.

BY GEORGE LITTLE,

(OF THE FIRM OF BRETT AND LITTLE, ELECTRO-TELEGRAPHIC ENGINEERS, LONDON.)

"Suum Cuique."

With regard to the objectionable use of electro-magnets for telegraphic purposes, what strikes me as being most remarkable, in one of the before-named cases, is, that not only will the iron not draw the armature when the battery is in connection, but if it be laid aside for weeks or months, no perceptable improvement will take place towards regaining its natural state; the only remedy being to take off all the wire, and pass the iron through a fire, by which means it resumes its original state. But, however, the five-needle telegraph of Professor Wheatstone was an exceedingly ingenious modification of one constructed previously by Mr. Alexander, of Edinburgh, who, in accordance with Ampère's suggestion, made a complete model, which consisted of a wooden chest, about 5 feet long, by 3 feet wide—in front of which was the dial, and on it was painted the 26 letters of the alphabet, in rows of six each, with the necessary points; the galvanometers being so arranged that the outside needle held upon its upper end a small screen, sufficient to keep each letter out of sight when not required, as shown in the annexed diagram. In immediate connection was a set of keys, very similar to those of a piano—each key being lettered, to correspond with the letters on the dial, and connected to which was a wire leading from each key to the needle, which commanded a similar letter, in all 30 copper wires; so that by depressing any one or two of the keys at pleasure, either of the letters was exposed to view on the dial—the needle having been, by the influence of the voltaic current, thrown out of its vertical position, as also the screen. Immediately following Alexander's telegraph was one constructed by a Mr. Davy, of Fleet-street, London, who made an arrangement whereby each key could produce any one of three letters assigned to it—he making use of eight keys for his telegraph, and taking advantage of the means employed for reversing or changing the course of electric currents at pleasure, was able to work his instrument with a less number of wires; the only difference between the dial of his instrument and that of Alexander's being in the use of an illuminated glass dial, with the letters of the alphabet painted upon it. A lamp was placed within the box, so that whenever a needle was made to move, a screen, which moved with it, exposed to view an illuminated letter—attention, in the first instance, being called by several blows on a small bell.



In Sturgeon's *Annals of Electricity, Magnetism, and Chemistry*, April, 1839, is a description of an electrical telegraph, erected between Munich and Bogenhausen, in 1837, by Professor Steinheil, which consisted of the oblong, or galvanometer, coil of wire, in the centre of which were two magnetic bars, mounted on an axis. In connection with, and secured to each bar, was an arm, upon the ends of which was fixed a point, or pen, and so arranged that one would move outwards when the electric current was made to flow in one direction; and, by reversing the current, the other was made to move outwards, whilst the first was being drawn within the coil. Two small cups of ink were placed in front, so that the pens, in their outward motion, could supply themselves with, and carry, a portion of ink, which was deposited, in the form of small dots, upon a drum of paper, which was kept revolving in front by means of clock-work—the telegraphic alphabet being represented by dots, as follows:—

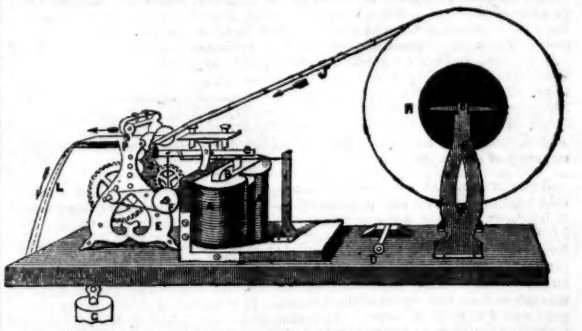
A B D E F G H

and so on throughout; by altering the position of the dots, the whole of the alphabet was represented. We will suppose that during the revolution of the drum, which carried the paper round, the right-hand magnet be made to move out from its place of rest, it would carry with it a portion of ink, and make one dot on the paper, by striking against it. Now, by sending the electric current in another direction, the left-hand magnet would be brought into action by opening and closing the circuit in the same direction twice, the magnet will make two distinct motions, and thereby deposit the ink in the form of two dots —thus the letter A would be designated as shown above.

About the same time, Professor Masson was engaged at the college at Caen in constructing a telegraph—he also using magnetic needles, which he operated upon by means of a magneto-electric machine, which will be refered to hereafter. A further modification of the galvanometer, or magnetic needle, telegraph was made by W. F. Cooke, Esq., co-partner of Professor Wheatstone, wherein the galvanometers were reduced from five to two, using two handles, or pole changers—one for each needle—and three conducting wires, with one for the bell—altogether four conducting wires. The method of operating was by moving the handles, or pole changers, from right to left, and *vice versâ*, so as to divert or change the course of the electric fluid, and make it pass in opposite directions at pleasure, through the coils of wire which surround the needles, which, in its turn, would cause the magnetic needles to move from side to side. By thus observing their combined motions from right to left, and from left to right, any desired letters, or words, could be transmitted. It is stated by Mr. Holmes, who has had the management of the apparatus, that it takes a voltaic battery of 144 pairs of plates to work this telegraph 213 miles—the alarum apparatus connected with this instrument being an arrangement of clock-work, acted upon by electro-magnets. Subsequently an electric telegraph was invented by Mr. Alexander Bain, who, with a view to overcome, if possible, some of the objections connected with those brought out previously, constructed an instrument in the following manner:—Upon two friction wheels was placed a magnetic bar, about 5 inches long, which was secured to an axis in a horizontal position, on one end of which was the pointer; on the base board, at each end of the magnetic bar, was fixed a reel of copper wire, so arranged that when the electric current was made to pass through it, one end of the magnet was drawn into the centre of one of the coils of wire, whilst the other, or opposite, end was being withdrawn or repelled from out the other coil of wire, which produced a motion of the pointer from right to left, and *vice versâ*. This instrument was called by him an I and V Telegraph, from the fact of his representing all the letters of the alphabet, by altering the position of an I and V—thus, one I represented the letter A; one I, one V, and one I, the letter H; I V I would signify L, and so on through the alphabet—attention, in the first instance, being called to the instrument by means of one blow upon a bell, or gong; the arrangement for that purpose was as follows:—A lever, with a hammer on one end, was so placed upon an axis that the tail-part could be placed at pleasure in a notch, made for the purpose, on the axis of the magnetic bar, so that when attention was about to be called, the electric fluid was made to pass, in the first instance, through the coils of wire, in such a way that the notch would be withdrawn from the tail of the hammer, which allowed the hammer itself to strike against the bell—the hammer remaining down until the message was passed, when the attendants had to replace all the hammer-tails in the notches again. I believe this telegraph was tried on the Edinburgh and Glasgow Railway. Immediately following this, Mr. Heighton brought out an instrument, in which he made use of one or more glass tubes, in the centre of which was suspended a slip of gold leaf—in fact, the gold leaf electrometer described by Sturgeon in his *Annals of Electricity*, &c. The two poles of a powerful magnet were made to embrace, or nearly so, the tubes near the middle part, on a current of electricity being made to take a downward or an upward direction through the gold leaf—the leaf itself immediately moved from right to left, or left to right; by then observing the number of the motions made by the gold leaf, during the opening and closing of the circuit, letters and words could be transmitted. The old method of making the battery circuit by keys, or studs, being used, as also the electro-magnetic alarum apparatus in combination; of course, as all electricians are aware, the gold leaf, if in the way of a flash of lightning, would be subject to immediate deflagrability.

Amongst the several claimants as having the honour of being the first inventor of the electro-magnetic printing telegraph, Mr. Morse, of America, appears as the first—having, as he states, invented one in 1832: the other claimants being Mr. Davy, Mr. Bain, and Professor Wheatstone. Of whatever value the honour may be to the respective claimants, I can only say, that, for the ordinary purposes of a railway, printing telegraphs will never be of any use, from the following facts:—The most perfect clocks ever made could never be got to keep time together; then, how is it possible to make printing telegraphs always keep time with each other, without at times great mistakes being made —clock-work being necessarily used in the construction of those kind of instruments; and such mistakes, when they do occur, are attended with some trouble in rectifying, not to speak of what else frequently occurs to the electro-magnetic printing telegraphs in America, where very often the lightning starts off the machinery, and begins to dash off in fine style a language peculiar to itself. Printing telegraphs require the most skilful management in operating, as well as the attendance of a class of persons of no ordinary capacity; whilst, with a simple signalising telegraph, almost any common mechanic can be employed in attendance, or, in many cases, the porters of the railway can learn to work a simple instrument in about half an hour at most.

We will now proceed to a description of Morse's Electro-Magnetic Printing Telegraph, of which the electro-magnet is the basis of the whole invention, which will be rendered more clear with the aid of the following diagram:—



A A, the electro-magnet; B, its armature; C, the lever, to which the armature is fixed—at the other end of which is a steel point, or marker, D; E, the frame of the clock-work, of which all the wheels are not seen; F, the stop-wheel, or detent, kept at rest by the rod in connection with the lever near the steel point; G, the weight which keeps the machine in motion when set free by the rod in connection with the stop, F; H, the drum, upon which is the roll of paper; K, the frame-work of the same; J, the paper leaving the drum, in the direction of the arrows; L, the paper leaving the machine, with the symbolic characters impressed thereon. The action of the machine is as follows:—When the iron, A A, is induced with magnetism, the armature, B, is drawn down, and with it the end of the lever, C, which, in its turn, lifts the rod from off the stop, F, whilst, at the same time, the steel point, D, makes an indentation on the paper immediately above it; during this time the weight, G, which is giving motion to the wheels, draws a further portion of the paper from off the drum, H, by means of two small rollers, between which the paper is griped at P, which rollers are not seen in the diagram, being hidden by the frame-work, E. Thus, by the nicest management, pricks and scratches may be made upon the paper. Here follows a portion of the telegraphic alphabet:—

A B C D E F G H I J

and so on, each letter being represented by the transposition of marks, pricked and scratched with a steel point upon the paper during its passage through the machine, the message in all cases having to be translated after it is received at the distant station. "God save the Queen" would be rendered thus in the above telegraphic language:—

[To be continued in next week's Mining Journal.]

Tables for Setting-out Curves for Railways, Canals, Roads, &c., varying from a Radius of Five Chains to Three Miles, either with or without a Theodolite. By ARCHIBALD KENNEDY and R. W. HACKWOOD, Civil Engineers. London: John Weale, High Holborn.

This is a little pocket volume got up in Mr. Weale's usual neat and complete style, which will prove of much utility in facilitating the field work for railway, canal, and every description of road engineering. In their preface, the authors inform us that, although several works have been published, describing the best methods which experience has shown to be least liable to error, and giving explicit rules for making the calculations, they have left out the most tedious of the whole, and that most liable to error. To supply this want was the intention of this publication, and their tables afford the necessary calculation, for the various distances from the tangent line at every chain, or 66 ft.; from a radius of five chains to three miles. Three several methods are shown, with explanatory diagrams—one with the theodolite, and two, which may be considered correct, in the absence of that instrument.

THE SMOKE NUISANCE ABATEMENT.—The borough of Manchester is, we believe, the only Corporation having powers to inflict penalties in cases of the emission of black smoke from factory chimneys—at least, it is the only one which exercises it to such an extent as to render the subject worthy of public notice. A farce (though a serious one to the parties concerned) similar to what we have noticed on former occasions, came off at the Borough Court, in which several manufacturers were fined in various penalties. Mr. Heron, the town clerk, supported the prosecution, and we think if his time cannot be better employed for the interests of the inhabitants, than getting up these objectionable prosecutions, something might be saved from his large remuneration with justice and advantage. In the case of Messrs. Whitelock's saw mills, Hulme, the summons was withdrawn, it being proved that the contracts and drawings were complete, and new furnaces on Galloway's consuming plan about being immediately erected. Messrs. J. and C. Scholefield, of Hulme, were less fortunate; it was proved that, during a week's inspection, of nine hours each day, dense smoke was seen for a period of 1 hour and 51 minutes, and occasionally 7 minutes at a time—they were fined 40s. In Messrs. Heald and Co.'s case it was proved that there were 2 hours and 42 minutes emission of dense smoke during a like period, yet they were fined only 20s.—so much for even-handed justice. The whole business is disgraceful, and we wonder the manufacturers do not unite their interests for their joint protection. We unhesitatingly adhere to our oft-repeated opinion, that there is yet no plan sufficiently perfect, to secure under all circumstances a continuous absence of smoke, and thus justify a law for the infliction of penalties, which is nothing more nor less than an injurious interference with trade and manufacturers. The worst part of the business, however, is the encouragement given to common informers, or at all events the employment of inspectors, the earning of whose remuneration is a premium for tergiversation, falsehood, and perjury.

THE FLOATING RAILWAY.—The steamer which was built for the Edinburgh, Perth, and Dundee Railway Company, in order to answer the purpose of a floating railway, arrived at Granton, on Friday, from the Clyde. The vessel has two funnels, also two engines, and will steer fore and aft, so as to obviate the inconvenience of putting about. The wheels for each rudder are placed in the centre of the gangway, across the paddle-boxes. Her decks are so designed, that the goods trucks can be put aboard and carried across and on to the railway at the other side, without breaking bulk. It will afford vast facility to this company in conducting their goods traffic, and will come into operation as soon as proper landing slips are provided on each side. Notwithstanding the purpose for which this steamer is destined, and her necessary capacious deck, the vessel has not the appearance of a great unwieldly tub, such as is used on the Newport and Dundee ferry, but, on the contrary, presents to the eye a trim-built sea boat, and her performances coincide with her outward appearance. On her voyage from the Clyde, she came round Cape Wrath, a passage demanding a good sea-going vessel, and not only made the passage with ease and rapidity, but shipped not a drop of water. —*Caledonian Mercury.*

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....Kent Water-Works, George and Vulture Tavern, at Twelve.
Sambre and Meuse Railway—Brussels, at One.
TUESDAY.....United General Gas-Light Company—offices, at One.
WEDNESDAY..European Life Insurance and Annuity Company—offices, at One.
London Gas Company—offices, at Twelve.
THURSDAY....West London Railway—London Tavern, at One.
FRIDAY.....Pacific Steam Navigation Company—offices, Liverpool, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

IRISH WASTE LAND IMPROVEMENT SOCIETY.—The half-yearly meeting of shareholders in this undertaking was advertised to be held at the offices, St. Mildred's-court, on Monday last; but in consequence of there being only seven proprietors present, and the deed requiring fifteen to form a meeting, no business was done. Some general conversation ensued on the position of the society's affairs; and from the report intended to have been read it appeared that the directors and committee, in proceeding to take the necessary measures for winding up the affairs of the society, had first fully considered the state of their finances and liabilities. In the first place, they had put a stop to the losses on the estates with the least possible delay; on those of Ballinakill and Kilkerrin they had given six months' notice of relinquishment, which expires on 1st of November next, when they would be given up. The lease of the estate of Gleneask has no such clause of optional surrender; but a negociation was pending for its surrender to a third party, to whom the landlord had assigned the property. The other expenses and liabilities had been reduced as far as possible, the steward had been discharged, the care of the property handed over to the overseer at a less salary, the stock was selling off, and the proceeds accounted for to the landlord for arrears of rent. With respect to the tract called Tulligoline, held on lease from the trustees of the late Earl of Devon, there is no power of surrender; but as the whole of the Devon estates were about to be offered for sale, there was hopes of realising at least a portion of money expended on improving the property. Considerable arrears of rent were due from the tenants, for the recovery of which the necessary steps have been taken, and with 1202*l.* arrears of calls due, was all the funds which they possessed for the clearing off their liabilities. The solicitors were proceeding against defaulters, and next term they hoped to report favourably of them. There were two vacancies in the direction, by the death of Col. Robinson and the disqualification of W. Harding, *Esq.*, and one in the committee, by the death of Mr. Ware, which can, of course, be only filled up at a legal meeting. The balance at the bankers was 365*l.* 16s. 8d.

PLYMOUTH GREAT WESTERN DOCKS.—The half-yearly meeting of shareholders was held on Monday last, the 27th August, at the offices of the company, Millbay—Col. H. B. HARRIS in the chair.—The directors' report stated that all the land on the Millbay shores had been purchased, with the bay and its priviliges, including land, which might be advantageously sold hereafter. A line of rails is to be laid down from the pier to the South Devon Railway station, by which the revenue of the company is expected to be considerably increased. A report from Mr. Brunel, the engineer, was read, describing the progress of the works, and which stated that, by a settlement with the contractor, the whole plant and materials had become the property of the company. From the statement of accounts, it appeared the receipts were—First call, 2*l.* 10s., 10,800*l.*; second, 10,300*l.*; third, 5*l.*, 1700*l.*; fourth 5*l.*, 1150*l.*; in anticipation, 4750*l.*; debentures, 12,000*l.*—making, with sundries and fractions, 67,069*l.* 18s. 3d.—Payments: Two Acts of Parliament, 5500*l.*; law, 700*l.*; land, 36,700*l.*; engineer, 1800*l.*; works, 16,300*l.*; balance at bankers, 3942*l.* 18s.; with sundries and fractions, 67,062*l.* 18s. 3d.—The directors, it was stated, held more than three-fifths of the whole shares—a guarantee for their economy of the expenditure.

RUSSIAN METALLIQUES.—The *Gazette du Commerce* says—"The stock of coin kept on hand for the purpose of cashing bank notes having diminished, it has been thought necessary to replace what is wanting, by transporting 5,000,000 of roubles from the fortress of St. Petersburg. On the day appointed for this purpose, in the presence of the assistants of the Comptroller of the Empire, the members of the committee of revision, the delegates from the Bourse, and the foreign commercial charges d'affaires, the sum destined to be removed was taken from the vaults of the fortress. It consisted of 2,000,000 roubles in gold, and 3,000,000 in silver. This sum, under the guard of the above-mentioned personages, and escorted by infantry and cavalry, was transported to the depôt of the bank. The council of the bank, in full sitting under the presidency of Prince Alexander Ivanowitsch, Tschermycheff, and in the presence of the above gentlemen, assured themselves that the sum was the same as that taken from the fortress. The Act relative to the removal was then signed by all present; this Act, among other things, establishes the fact that there remained in the vaults of the fortress of Peter and Paul, after the removal of the 5,000,000 roubles, 101,528,595 roubles."

CALIFORNIA.—The latest news from the gold regions is to the 2d of July. It is said the American Government are determined to annex the whole Californian territory to their already extensive dominion; and General Riley has advised the people that it is useless to attempt to establish an independent Government. The reports from the interior are still confused, though all concur in the statement that there is abundance of gold; but the difficulties attending its obtainment are great. According to the accounts, upwards of 30,000 Americans were there—few of whom were expected to remain, as none but the most robust constitutions could stand the severe labour and exposure to wet and change, which cannot be avoided to obtain anything like a competence. The *New Orleans Picayune* states that, from a Mr. Cook, who arrived in the *Falcon*, they are informed that the gold in the hands of individuals is immense. The seekers only part with just sufficient for necessaries, hoarding the remainder to future times. Only one-third of the gold found is said to be exported; the quantity shipped in five weeks to July 1st, was $1,005,000. A lump, said to be the purest national specimen, weighing 198 dwts. 17 grs., was consigned by Cook, Baker, and Co. to J. R. Eno, of New York. A new coin of Californian gold has been issued. It is about the size of a $5 United States gold piece; but it is not quite so handsome. On one side it has the American eagle, with the inscription, "Californian Gold," "Without Alloy." On the reverse it has a circle of stars with the inscription, "Full Weight," "Half Eagle," "San Francisco," "N. G. N., 1849." The edge is smooth, and not milled, like our coin. It has a different colour from our coin, being of pure gold. It is coined by a private company. From other accounts, we learn that the state of society remains in a most unsatisfactory state; Lynch law prevailed; and offenders, or supposed offenders, were hung up to the nearest tree without mercy. Every man was armed with pistols and knife. The Americans had sent troops; but who, on their arrival, deserted to the diggings; and even a judge appointed to the state of Oregon, went a like road. The number of ships which had arrived at St. Francisco, from 1st to 18th June, was 51. Clerks in that city were getting from $2000 to $4000 a year and their board. Flour is cheap; but lodgings not in sufficient abundance to cover one-third of the people. A very small lodging rents at from $100 to $350 per month. The arrivals in June and July were 1000 a week. A French *restaurant* received $1 per minute, and was always busy. Eggs were $3 a dozen; dinners, $2 each. Nothing paid so well in the way of merchandise as lumber and bricks for building. A private mint has been established. Several parties of California emigrants had been destroyed by the Apache Indians; among them Mr. Green Marshall's party, except two, who escaped. The rainy season had commenced, and much and fatal sickness prevailed. The dispute between Americans and foreigners continued both at San Francisco and the diggings; but the term "foreigners" is applied only to the Spanish and other races who do not speak English; but Englishmen, Scotchmen, and Irishmen, are considered as Americans, and may receive certificates of the first step towards citizenship, and are deemed citizens in California.

CARADON UNITED MINES—BANKRUPT'S SHARES.—At the Vice Warden's Court, a petition was presented by the purser against Mr. John Edwards, of Stamford-street, and his assignees, he having become bankrupt, for the recovery of 510*l.*, being the calls due on defendant's, Edwards, 35 shares in the mine. The shares were alleged to have been carried on by Mr. Edwards from August, 1846, to November, 1847, when the other defendants, William Denison and George John Graham, became his assignees, and that the shares were continued to be carried on to the time of the filing of the petition. Defendant (Edwards) had put in no answer, and a decree, *pro confesso*, had been granted in his case. The other defendants, in their answer, admitted some allegations, but went on to state, that they were informed and believed, that before his bankruptcy, Mr. Edwards had either mortgaged, or deposited his shares with his bankers, as security for advances. They also denied that they (the assignees) carried on the shares; they said they never accepted, or made any claim to the shares, and they disclaimed all interest therein and right thereto.—Mr. Chilcott said, he believed that on the face of the petition, there being but three defendants, a decree, *pro confesso*, against one, and the other two disclaiming all right, he was entitled, as a matter of course, to a decree for payment; but Mr. Roberts, who appeared for the assignees, would also consent, on their part, that there should be such a decree.—In reply to the Vice-Warden, Mr. Chilcott said 230*l.* were due at the time of the bankruptcy, and 280*l.* was the amount of calls made since.—The Vice-Warden, however, in reference to the application for a decree for payment, thought that as the pledges of the shares would be affected by the sale, they ought to be made parties in the suite, and the petition would have to be amended. He would, however, look at the cases on the subject.—Mr. Roberts said, that as a condition of giving his consent to a decree, Mr. Chilcott had withdrawn the allegation, as to the assignees having personally taken the shares, and being personally liable.—The Vice-Warden said, he understood that plaintiff admitted the assignees had never accepted the shares, or done anything to make themselves liable, or the bankrupt's estate in their hands, except so far as the purser might be found to be a creditor for 230*l.* before the bankruptcy.

THE MINERAL WEALTH OF CHINA.

One, at least, of the seven seals by which the Celestial Empire was formerly closed to European access has at last been broken, and we are now enabled to obtain a glimpse of the land of Confucius through crannies which are just wide enough to excite our curiosity, without satisfying it; and what we know of its subterranean riches is scarcely more than an attractive, but incomplete sketch. That there are in China both gold and silver mines, of great productiveness, was known to us even in the time of the Emperor Kang-hi, through the missionaries living at Pekin, whose accounts have since been confirmed by modern writers of authority, and attested by the considerable export of bars and uncoined bullion which has taken place since the rise of the opium trade. But little, however, is yet known as to the site of these mines, the manner in which they are worked, &c. This much only has been ascertained, that in certain localities, as Kirrea, in Chinese Tartary, and in the provinces of Chekeang and Yunnan, a few mines are worked, which are preserved as a strict monopoly in the hands of Government. We are also in the same state of uncertainty as to the site and productiveness of the iron, copper, lead, tin, and zinc mines, although no doubt can prevail as to their existence and richness. All these metals play an important part in Chinese life, and are to be procured at very moderate prices. The white copper, "petung," so frequently admired by travellers and the scientific, and of which a multitude of household utensils and ornaments for the pagodas are made, is also common and cheap; this brilliant substance is, however, not a simple metal, as at first stated by the missionaries at Pekin, and believed by many, from their statement; for, according to experiments made by chemists, it is formed by the amalgamation of two or more metals; and the commercial delegates, who were joined to the French mission to China, acquired the certainty that zinc and copper are used in the preparation of white copper, and they conjecture, with some ground, that other metals, such as iron, nickel, or arsenic, are likewise added, although in proportionately smaller extent. Coal forms a yet unopened source of wealth for Chinese industry, for it has hitherto been but little used, the children of the central kingdom holding in horror the machines worked by steam power, which form the pride of the "red-haired barbariana." And yet, if we are to credit their own assertions, the land contains an almost incalculable abundance of this profitable combustible, an immense and productive coal-field being said to extend from north to south, comprising the whole 18 provinces of the empire. The chief exploration is in the southern and western portions of Kshi-li, Hoo-pe, and Chan-si. In Ssichaun the coal appears on the surface in veins of from one to five inches thickness. In Shang-hae coal is used in large quantities, although charcoal is also very generally burned, and this is sold at so low a price as 4s. a hundred weight. In Canton, coal from the northern provinces is about one-half cheaper than that brought to Paris from central France. Lastly, it is a current tradition throughout China that all the provincial cities were by law erected over a bed of coal, which the inhabitants were taught how to work, in order that in case of a blockade or a war, they might always be certain of a plentiful supply of fuel. In all other cases they are forbidden to make use of the coal. Of Canton it is related that at the period of the last war with the English the mines in the north of the town were opened; a similar magazine of coal exists in Pekin, in the northern portion of the imperial palace, at the foot of the hill Kingchang, renowned for its gardens and aviaries. Nature has thus provided the Chinese in the greatest plenty with that substance through whose aid Europe and America have, within late years, made such gigantic strides in industry. With its support the industry of China will, undoubtedly, in time attain the heights which we have already attained, as well as those we still have to reach, although many years may elapse before they advance so far. The chief obstacle to an extended use of coal for steam machines are the prejudices of the Chinese against these latter, their long-descended customs, the interests of their existing branches of industry, and also, to a certain extent, their ignorance. They want the means of properly working their coal mines, and, besides, are not aware of the European plans for guarding against the casualties arising from inflammable gases, and the irruption of water. As soon, however, as they shall have learned how to work their stores of coal, in the fullest extent of the word, and are inclined so to do, they will cease to be Chinese.—*Ausland.*

WHEAL QUEEN'S MINE—THE COST-BOOK SYSTEM.

In the Vice-Warden's Court, on the 22d inst., a question of considerable importance was brought forward, and to which much interest was attached, as it will be remembered that a similar case was brought before the Court of Exchequer, on the 7th Dec., 1848—Fox and others *v.* Wyld, in the case of the Wheal Lovell Mine. On the present occasion, we have the dictum of the learned judge presiding over the Stannaries' Court, which will be found in the following report of the proceedings:—

Mr. G. N. Simmons appeared for the plaintiff, and Mr. Benallack for the defendants. This was a petition by one partner against his co-partners for an account in respect to Wheal Queen's Mine, in St. Columb Minor. The petition alleged that the company was formed about March, 1848, on the Cost-book System; that the names of the defendants, with that of the plaintiff, were entered on the cost-book, with the shares respectively held by them set opposite; that the company prosecuted the mine until the end of June in the same year; that one of the defendants, R. I. Hocking, acted as purser, and kept the cost-book, and other books belonging to the mine; and that the several defendants held the shares specified from the commencement, with the exception of John Rouse, who relinquished his interest in the mine on the 22d April. The petition further went on to state, that the plaintiff, in the beginning of April, agreed with the purser and other adventurers to sink a shaft, which he accordingly performed during the months of April and May; that he had also supplied materials, and paid moneys on behalf of the creditors, beyond his fair proportion of costs as an adventurer, and that there was a balance remaining due to the petitioner; that there was no machinery or materials on the mine, but that, on the other hand, there were debts due, and liabilities existing; that he had requested defendants to join in taking an account, but which they had refused doing. Defendants, in their answer, admitted all the allegations, expecting that they denied the mine was divided into 22d parts, or shares; but contended that it was divided into 256ths, and that the shares held by them were in such proportions, and not as 22ds, which the plaintiff alleged. They also denied that the petitioner had worked, supplied goods, or contributed money beyond his fair proportion.

Mr. SIMMONS submitted that enough was admitted in the answer to entitle him to ask for an order for referring the account prayed for to the registrar, to ascertain what expenses had been incurred, what proportion each ought to bear, the amount each adventurer had contributed, and that which he would be required further to contribute. A difficulty having arisen as to the number of shares into which the mine was said to be divided, and as appearing by the cost-book, Mr. Simmons, on the part of the plaintiff, expressed his readiness to consider and hold the shares as divided into 18-18ths.

Mr. R. I. Hocking (the purser) was then examined; and, among other things, was asked by the Vice-Warden, with regard to Pellew's purchase of shares, whether there was any entry in the cost-book of the transfer, or assignment, of four shares from the name of the witness into that of Pellew, and whether there was moreover an entry by the latter to the effect—"I agree to accept the shares?" To which the witness answered in the negative.

The VICE-WARDEN: "I do not say you might not show that Pellew, by his acts, had become the owner of four shares; but it would be much clearer, and more proper, if you had a certain part of the book in which transfers and agreements to accept, signed by the transferring and accepting parties, were entered. In most share books there is a certain portion left blank in which is placed 'I have transferred —— to A. B.,' signed by the transferer, with the date; and the transferree signs, 'I agree to accept the same,' signing his name, and date of such acceptance. That is such evidence as the public will be satisfied with, and will exempt you from the Acts relating to joint-stock companies; otherwise, instead of coming under the Cost-book System, you may suddenly find yourselves in Chancery, under the Joint-Stock Acts." With regard to the defence, that the shares were 256ths, and not 22ds, the Vice-Warden said that, *if the parties chose to work the mine* without selling shares besides those they held, the persons who trusted them, and supplied the mine, might treat them as the sole proprietors, or amongst themselves one might call on the rest to account, treating them as the owners of the whole mine.

Mr. BENALLACK contended, that as defendant (Pellew) was not an *original* shareholder, and had taken no larger interest than 4-256ths. He was liable only to the extent of 4-256ths, on which the VICE-WARDEN said, in late cases it had been held, that where there had been prospectuses, or representations, that there should be a certain number of shares, and a person taking a certain number of those shares was absent, and before the whole number was taken the works were commenced, and debts incurred, without his privity to the commencement, before the full number of shareholders was complete, he was not liable, for he came in on a condition which had been violated with regard to him. If, then, Pellew had agreed only to go on when the 256 shares were all disposed of, or taken up, Mr. Benallack's argument in his favour would be just; but defendant (Pellew) had admitted, with the other adventurers, that he, with them, "commenced, and carried on," and, if so, he must pay according to his interest on the same proportionate shares as the rest.—Capt. R. Woolcock was then called to speak to the labour done by plaintiff, after which the VICE-WARDEN said, the interlocutory decree would allow the sums of 14*l.* 0s. 5d., 2*l.* 10s., and 12s. 10d., subject before the registrar to any charge of mistake, or fraud, and that the case should go before the registrar, to find how the accounts stood between the parties.

COPPER SMELTING BY THE BLAST.—At the Roras Copper-Works 2083½ tons of ore produced, in the first smelting, 910 tons of regulus of 43·8 per cent., and 908½ tons coarse regulus of 19·8 per cent.; this produced 179¾ tons black copper, which returned 150 tons, 98 22-42ths lbs. gahr, or roseate copper. The total cost of smelting is calculated at £6 7*s* skillings per ton, equal to about 1*l.* 7*s.* sterling.

Mining Correspondence.

[The Commissioners of Inland Revenue having notified to us their resolve to charge with advertisement duty all reports having the agents' names affixed, we appealed to them in a memorial, setting forth that we, or the respective companies, derived no advantage therefrom—the only object sought, or obtained, being that of affording to the mine adventurer and public the greatest guarantee we could for the truthful and *bond fide* nature of the statements periodically set forth, by authenticating them, and thus fixing a responsibility on the writer. The Commissioners have replied, that "the reports, with names attached, are advertisements, and that duty will be charged thereon." We have no alternative but submitting to their dictum. How far the Commissioners are correct in the view they take, our readers can judge as well as ourselves;—we can but hope that, on reflection, they will see the error into which they have fallen, and rescind the orders they have issued. All reports inserted under this head, however, may, as heretofore, be considered as furnished by the regular agents of the company; and we shall carefully guard against the publication of statements which cannot be relied on as correct.]

BRITISH MINES.

ALFRED CONSOLS.—The lode in Field's engine-shaft, sinking under the 50 fm. level, is in quality and size just as reported last week—that is, 6 ft. wide, and orey throughout—having a very promising appearance. We hope, on reaching the 60 fm. level, and opening on the lode, we shall find something very good; the lodes on the 50 fm. level, east and west, are just as reported last week—large, and dredged with copper ore. The lode in the 40 fathom level east is 5 ft. wide, containing mundic, iron, and blende. We are getting on cleaning the 10 fm. level, west of the boundary shaft, very favourably, and also the footway shaft; the water sunk in the old mine last week was 2 ft. 7 in., without the least increase on our engine.

BARRISTOWN.—We have suspended all our tutwork operations eastward, except two men in the east end over the adit level, in which we have a small branch of lead, about 1½ fn. wide; although light to drive on for a few fms., and the ground favourable, we pay 30s. per fm. We are also rising in the back of the 16 fm. level west of slide, to take away the ore ground from that to the adit level; the lode in this rise is large, but containing little ore. The stopes in the back of the 16 fm. level, to the west of the rise, are producing 8 cwts. of lead per fm. We discovered in a tribute pitch, in the western extremity of the workings at Nangle's, under the adit, a good branch of ore, from 6 to 8 in. wide, and producing over 1 ton of lead per fm. In expectation of this continuing west, we are sinking a winze about 10 fms. to the west of it in the bottom of the adit level; the lode in this winze is large, and well mixed with lead, producing about 3 cwts. per fm. We have commenced to drain the old mine water, which is already accomplished 4 fms. We are also sinking Nangle's shaft.

BEDFORD UNITED.—The ground in the engine-shaft remains unfavourable for sinking. In the 103 fathom level, east of Burley's winze, the lode has not been taken down; in this level west the lode is from 2 to 3 ft. wide, good work. We continue to drive by the side of the lode in the 90 fathom level. The lode in the 70 fathom level is 2 feet wide—saving work.

BIRCH TOR—*August* 20.—I am happy to say the Old Vitifer lode is opening very well. The 10 fm. level, west of Dunstan's shaft, has been driven through the hard floor of ground that we had in the shaft above the back of this level about 15 fms., and in driving through this ground the lode was poor; as soon as the ground changed by the side of the lode it changed satisfactorily to me, and I believe I shall be able to prove this to you by my samplings from this time. On Birch Tor lode, at Prideaux's shaft, the stopes in the back of the 10 fm. level, east and west of this shaft, are improving; in our deep adit end, east of this shaft, we have a very promising lode, producing some good stones of tin, but they are not yet regular; I beg to say I never saw a more promising end on the Birch Tor lode. The shoot of tin ground we have in the shallow level continues very regular; the cross-cut is hard.——*August* 21.—In consequence of the lode not being taken down in the shaft until this morning, I am later with my report than I intended, but I know you will be glad to hear from the deepest part of the mine. I can assure you that the lode in the bottom of the shaft is looking well. My advise to you all is, that you part with no more of your shares at the present price; if you do, you will make a great sacrifice of your property. It was not till the 11th Dec., 1849, that we began to sink Dunstan's shaft from the surface, and now this shaft is in the 20 below the adit, which is 11 fms., and we have a good lode in the bottom of the shaft. In my report of the 9th July, I said we were in a position to pay our way. I beg to say that I am able to substantiate that report; although my samplings have been small, it is not for the want of tin on the surface, but for want of water, and I can assure you that I have not been idle.

BRYN-AR-IAN.—The lode in the 10 fathom level, east from the shaft, still continues large, and orey throughout, yielding 15 cwts. of ore per fathom; we are carrying the level 6 ft. wide; but there is still 3 or 4 ft. of the lode standing to the north of the level, which will be taken down when we have made a communication to the winze gone down east of the engine-shaft; the stope over the back of the deep adit level, east of the engine-shaft, is producing 1 ton of ore to the fm.; the stope in the back and bottom of the shallow adit is yielding about 8 cwts. of ore per fm.; the piece of ground they are now stoping in the shallow adit level is nearly finished, as they are up to the old man's workings; the stope in the bottom of the deep adit level, north of the winze, is yielding 10 cwts. of ore per fm.

CALLINGTON.—Kellybray engine-shaft is now down 8 fathoms below the 32 fm. level—ground favourable for sinking. In the 20 fm. level east the lode is 1½ ft. wide, still producing good stones of copper ore. In the 50 fm. level east the lode is large, but at present unproductive. In the 70 fm. level east the orey part of the lode is about 6 in. wide, yielding about 1 ton of copper ore per fm. The 90 fm. level west is predneing stones of copper ore. At the north mine, in the 112 fm. level north, we are laying open moderate tribute ground; the 112 fm. level south we have suspended for the present, and put the men to rise in the back of this end; the lode in the rise will produce 5 cwts. of silver-lead ore per fm. The 100 fm. level north is producing occasional stones of silver-lead ore. In the 90 fm. level south no lode has been taken down since last report. At the south mine, in the 125 fm. level, we are laying open tribute ground; in the rise in the back of the 125 fm. level north no lode has been taken down. In the winze sinking below the 112 fm. level north we are opening tribute ground. The 90 and 40 fm. levels are producing silver-lead ore.

CARTHEW CONSOLS.—At the upper mine, our summen are busily engaged in lowering the lifts from the 48 fm. level to the bottom of the mine, which we expect to see in the course of another week, unless any thing happens to obstruct us that we know not of at present. We have done nothing in clearing the 48 fm. level south this week, but in driving the 38 fm. level south, we find the lode gradually improving, yielding a little lead and copper; and in driving the 28 fm. level south, we find a still more decided improvement, and are daily expecting to strike into a bunch of ore. You will readily judge of the flattering appearances of our tribute pitches, when I tell you that they (though four only in all) will, I estimate, yield in one month (*i. e.*, to the end of the present) 150*l.* to 200*l.* worth of ore.—At the lower mine the appearances are very much as noticed of late. We shall sample here, in a month from this, about 220*l.* worth of lead and copper; we then shall have left in the mine, undressed, a half-month's raisings, which cannot possibly be dressed in time for that sampling.

DEVON AND COURTENAY.—The lode in the winze in the 40 fm. level is 4 ft. wide, and still produces white iron, prian, &c., interspersed with spots and branches of ore; the water still continues favourable. In the rise in the back of the 40 (further west) the lode is 2 ft. wide, composed chiefly of white iron, with a branch of ore in one part 4 in. wide, very good. In the end driving north on the cross-course, in the 50 fm. level, we have not yet seen the lode. In all the pitches in the back of this level, on the south lode, the men continue to break some good work, and are getting wages at their respective tributes. The pitch producing the most ore at present, is the one east of the eastern cross-course.

DYFNGWM.—The following is my report of our setting for September:—The 22 fm. level west is set to four men for the month, at 4*l.* 10s. per fm.—a branch of lead, 4 in. wide, coming down from the back about 18 in. in the end; ditto east, the stuff is not cleared from the end, but will be by Wednesday next; this end is poor at present, almost without lead. I put the six shaftmen to sink in the bottom of the level under Tudor's backs—sunk 2 ft. 9 in. in the best course of lead I have seen anywhere in the mine; set to sink as far as we can go for the water, at 8*l.* per fm.; the winze to be carried 7 ft. 6 in. long, all the width of the lode. We have completed the west footway from this level to adit. We have been clearing the adit for the last fortnight through the run of stile, at 1 hope to see the steel ore stopes soon. We have completed the landing brace, to land the stuff in the waggons; two men will land and train the stuff; also put boys to wheel and fill the kibble, so that all will be in a fair train of working. At Cyfarthfa, the stopes west are continued by two men and two boys, at 3*l.* 10s. per fm.: a branch of lead 4 in. wide going down; east end and stope refused at 6*l.* per fm. I expect more hands to-morrow, who, no doubt, will accept the end at the price; it is poor at present, in consequence of a hard capel coming in from the south. A stope in the back of this level, above the slide, is set to two men, at 40s. per fm. I expect to break a large pile of leadstuff for the stamps from here this month. In the end, east of Edwards's stopes, two men are stoping, at 50s. per fm.; it is still in the gossan, with good stones of lead—set to two men, at 40s. per fm., to drive north, where I expect to cut more lead in 2 fms. driving. I have seven men about the new road, to bring in the materials and lead from Jones's stopes, and engaged waggons to go for the water-wheel to-morrow.

EAST TAMAR CONSOLS.—The shaftmen having extended the 80, or bottom level, sufficiently from the shaft, have been set to cut ground for plat and cistern, preparatory to changing the lift and getting in course for resuming to sink. The lode in the north end is tight, and in the south end it is easy for driving, and more promising. In the south end, at the 70 fm. level, we have a good productive lode, easy for driving, and leaving excellent tribute ground; the north end at this level is in a hard knot of ground, the same that we had in the level above. In the south end, at the 60 fm. level, the lode is 2½ ft. wide, producing saving work. In the north end, at the same level, the lode is 2 ft. wide, 12 inches of it being good work. The winze from the 46 is holed to this level just behind the end, whereby the level is well ventilated, and a large extent of good tribute ground laid open; the pitches in the back of this level are producing a full average quantity of ore. The lode in the 11 fm. level, north of Charlotte's shaft, is large and kindly, but not quite so productive as it was last week. In the rise against Caroline's shaft we have a very good lode; the pitches in the back of this, and also in the 26 fathom level, are yielding rather more than an average quantity of ore. We have commenced operations at Gullett's shaft, preparatory to the erection of the Whitsome engine; it is a good firm shaft, and will require but little alteration.

ESGAIR LLEE.—The deep adit is set to drive east on the north lode, by six men, 4 fms. stent, or the month, at 6*l.* 10s. per fm.—drove last month 1 fm. 3 ft. 10 in. I cannot speak of any alteration in the lode since my last report. The winze below the shallow adit is now down 8 fm. 2 ft. 6 in.—sunk last month 1 fm. 1 ft.; this bargain is refused at 8*l.* 10s. per fm., but I expect to be able to set it, in the course of a day or two, at the above price. The lode is looking quite as last reported; in fact, I never saw the lode look so well as at present in the bottom of the winze. We shall be ready to sample 20 tons of lead ore from our mines by the end of this month.

EXMOOR WHEAL ELIZA.—Since our last, we have suspended driving on the caunter lode, for the purpose of expediting our driving towards the south lode, as it was thought proper not to employ any more hands just now; the cross-cut above referred to is progressing favourably. The north lode, west of the north cross-cut, is about 4 ft. wide, of a promising character. The water can be kept very easy.

HAWKMOOR.—I have great pleasure in reporting a decided improvement in the engine-shaft, the lode being at present 3 ft. wide, and worth 8 tons of good ore per fm., with every probability of increase. The lode in the 20 fm. level west is about 2 feet wide, and worth 1½ tons of ore per fm. In the 20 fathom level east, we have met with a limb of the cross-course, which has not yet been cut through. Up to the point of intersection, the lode remained equally good, as stated in my last report, yielding 3 tons of ore per fm. The tributers are breaking a fair quantity of ore.

HEIGNSTON DOWN CONSOLS.—Bailey's engine-shaft is sunk 6 fms. below the 35 fm. level, and we hope to complete the same to the 43 by the end of next month. The lode in the 35 fm. level, east of cross-cut, produces some excellent stones of

copper ore, superior to any yet broken since the commencement of such drivage from the engine-shaft. The lode also in Hitchens's shaft is improved in the present week, and shall commence driving west on its course, to effect a communication with the 20 fathom level east of Bailey's engine-shaft.

HOLMBUSH.—The lode in the 120 fm. level south is 3 ft. wide, and will produce 5 cwts. of lead per fathom, and the ground very soft for exploring; the ground in the 120 fm. level cross-cut south, towards the Flap-jack lode, is a little harder than it has been; but still 5*l.* per fm. is a fair price for driving it. The lode in the 110 fathom level south is 2½ ft. wide, producing 5 cwts. of lead per fm.; the lode in the stopes in the back of the level will produce 3 cwts. of lead per fm. The lode in the 100 fathom level south is 2 ft. wide, composed of soft spar, prian, and stones of lead; the Flap-jack lode in the 100 fm. level, east of the great cross-course, is 20 in. wide, composed of spar and mundic, mixed with soft killas and spots of copper ore.

KIRKCUDBRIGHTSHIRE.—The lode in the 62 east is 4 feet wide, with fine stones of ore, yielding ½ ton per fm. Westward, we are driving on the south part of the lode, which is very kindly, and turning a little to the southward; thus it is leaving the north lode by forming a large horse of ground between, and this gives it an unsettled appearance. The lode in Keith's shaft is not much improved yet; it is about 2 ft. wide. The lode in the 50 end west is 2 ft. wide, with a branch of ore worth 4 cwts. of lead per fathom. The lode in the 50 end east is 2½ ft. wide, with spots of ore in it, but not to value. Our vessel is in, and discharging to day; we shall put our lead on board on Monday.

LEWIS.—The lode in the engine-shaft, sinking below the 70, is 2 feet wide, producing some occasional stones of tin. The lode in the 70 east is 18 in. wide—saving work for tin. The 70, east of sump-shaft, on south branch, is worth 5*l.* per fm. The 70, east of ladder-road winze, on south branch, is worth 9*l.* per fm. The 60, east of engine-shaft, on south branch, is worth 18*l.* per fm. The lode in the 60 east, on Cock's branch, is 1 ft. wide, yielding some tin, but not to value. The lode in the winze sinking below the 60, on Cock's branch, is worth 30*l.* per fathom. In driving the level (60) south from sump whim-shaft, the ground is harder than usual. The 50 east from copper ore shaft, on Cock's branch, is worth 4*l.* per fm. The lode in the winze sinking below the 50, on Cock's branch, is 6 inches wide—saving work. The south lode in the 50 east is 8 inches wide, producing some excellent quality tinstuff. The lode in the 40 east, on Cock's branch, is 1 ft. wide, driving at 12s. tribute. The 40 west, on Cock's branch, is 6 inches wide, opening moderate tribute ground. Our tribute pitches, in general, are productive—good average quality work.

MENDIP HILLS,—I have no particular change to report to you in the appearance in the beds of slag stuff in Charter-house Valley, being about 15 ft. thick, producing some good slags, and a quantity of slimes. Blackmoor dressing floors are completed, and the men removed to Ubley, where they are engaged in removing rubbish and making the necessary drains, &c., for the dressing floors, which will also be completed with all possible dispatch; during the past week we have smelted a portion of our slimes, which produced 9 tons of lead.

SOUTH TAMAR CONSOLS.—The shaft is sunk 2 fms. under the 101 fm. level; the lode for the last fathom is nearly 2 ft. wide, composed of can, with a good leader of lead about 5 in. wide, and it is altogether much improved; in the north end, in the 101 fm. level, the lode is grey and productive—good saving work; the pitch in the back of this level is yielding a fair quantity of ore. In the 101 end very little has been done, the air is bad, and the men have been ill. In the 90 fm. level north we have laid down a tramroad, and shall endeavour to clear Glynn's shaft, the present end being under it; we have a very good lode in the south end, in this level, which has been holed to the winze—sunk from the 80 to meet it. A considerable extent of excellent tribute is thus laid open. The pitches in the back of this level are looking very well. In the south end, in the 80 fm. level, the lode is not quite so easy for driving, but continues to yield from 9 to 10 cwts. of lead per fm.; the pitches in the back of this level are also looking well, but several of the men have been absent from sickness, and therefore the quantity of ore broken is less then it otherwise would have been. In the 70 end south the lode continues to be worth about 1 ton of ore per fm. In taking down the lode in the 80 fm. level we find it to be good work, but a great portion of it will require to be stamped, as the ore is fine grained, and so disseminated, that it cannot be dressed to advantage by any other means. It gives me pleasure to add that the prospects are very encouraging.

SOUTH WALES MINES.—The Bodcoll deep adit is set to drive west on the north lode, by four men, 4 fms. stent, or the month, at 3*l.* per fm.—drove last month 4 fms. 0 ft. 11 in. The lode is about 1 ft. wide, composed principally of grey slate, but is poor for lead. The Dalwin deep adit is set to drive east of the Rhydnet river, by four men, 4 fms. stent, or the month, at 3*l.* 5s. per fm.—drove last month 2 fms. 3 ft. 10 in.; the ground is getting rather stronger; the lode is 6 ft. wide, and looking very kindly, and is producing some good stones of ore.

SOUTH WHEAL JOSIAH.—The lode in the adit end continues to improve in size and quality—being now 5 ft. wide.

SOUTH WHEAL TRELAWNY.—The engine-shaft is sunk 2 fms. below the 40 fm. level, the ground in which is a little harder than it has been. We have set it to sink for one month, at 16*l.* per fm., and every effort is being made that can be to get to the 50, at which level we intend to cross-cut both east and west of the shaft. The water is just as usual, and everything going on in regular order.

TAMAR SILVER-LEAD.—The lode in the engine-shaft is small and poor. In the 190 end the lode is 18 inches wide, producing work of a promising description. In the 175 end the lode is still large, composed of capel and mundic, with small strings of silver-lead ores. In the 160 end the lode is disordered by cross branches. In the 145 end the lode is 2 ft. wide, and opening good tribute ground. In the 135 end the lode is 18 in. wide—rich work, a promising end. At North Tamar, in the 80 fm. level, driving north, the lode is small and unproductive. In the 70 fm. level north the lode is 2½ feet wide, 6 in. of which is good saving work; in driving south, in this level, the lode is 1 ft. wide, yielding work of a moderate quality. Our last parcel of ore, computed 92 tons, was sold to T. Somers, Esq., at 19*l.* 9*s.* 6*d.* per ton.

TINCROFT.—Palmer's shaft, on East Pool lode, is sinking below the 90 fm. level; the lode is 3 ft. wide, with good stones of copper ore. The lode in the 90 west is 2 ft. wide, with some ore, but not to value. In the 80 fm. level west the lode is 4 ft. wide, worth 10*l.* per fm. for copper. The 36 fm. level is driving west towards Stainsby's shaft, the lode is 2½ ft. wide, worth 9*l.* per fm. for copper. In the 24 fm. level west the lode is 1½ ft. wide, with good stones of copper ore. The stopes in the bottom of this level are worth 30*l.* per fm. for copper. In the bottom of this level we are sinking a winze; the lode is 3 ft. wide, worth 40*l.* per fm. for copper. At North Tincroft, the engine-shaft is sinking below the 100 fm. level, the lode is 4 ft. wide, worth 20*l.* per fm. for copper. In the 100 fm. level east the lode is 3 ft. wide, worth 11*l.* per fm. for copper; in the 100 fm. level west the lode is 2½ ft. wide, worth 10*l.* per fm. for copper. In the 90 fm. level east the lode is 3 ft. wide, worth 12*l.* per fm. for copper; the 90 west is worth 9*l.* per fm. for copper. On Highburrow lode, in the 152 fm. level, east of engine-shaft, the lode is 4 ft. wide, worth 14*l.* per fm. for tin. In the 149 fm. level, east of Martin's east shaft, the lode is 5 ft. wide, worth 15*l.* per fm. for tin. The stopes in the back of this level, east and west of the shaft, are worth 18*l.* per fm. for tin. In the 132 fm. level, east of Martin's east shaft, the lode is worth 18*l.* per fm. for tin. The stopes in the back of this level, east of the shaft, are worth 17*l.* per fm. for tin. The stopes in the back of the same level, west of the shaft, are worth 15*l.* per fm. for tin. In the 120 fm. level, west of engine-shaft, the lode is worth 10*l.* per fm. for tin. In the 110 fm. level, driving east of Cook's Kitchen, the lode is 3½ ft. wide, worth 6*l.* per fm. for tin. On Chapple's lode, in the 100 fm. level, east of Downright shaft, the lode is 2 ft. wide, with spots of ore; in the west end, same level, the lode is worth 15*l.* per fm. for copper. The 90 fm. level is worth 22*l.* per fm. for tin and copper. In the 80 fm. level west the lode it 2 ft. wide, worth 8*l.* per fm. for tin and copper. At Wheal Providence, the lode in the engine-shaft, sinking below the 33 fm. level, is 2½ ft. wide, with spots of ore.

TRELEIGH CONSOLS.—Garden's shaft, below the 113 fm. level, is sinking in the country. In the 90, west of ditto, lode 2 ft. wide, with stones of ore, and has a kindly appearance. In the 80, west of ditto, lode 1 ft. wide, with stones of ore; in the 80, east of cross-cut, lode 18 in. wide, worth 2*l.* per fm. In the winze, below the 80, lode 15 in. wide, with stones of ore. In the 60, west of Garden's, lode 2 ft. wide, with stones of ore. At Wheal Parsut, the engine-shaft, below the 30 fm. level, is sinking in the country. In the 30 fm. level, east of ditto, lode 3 ft. wide, worth 20*l.* per fm.; in the 30, west of ditto, lode 15 in. wide, worth 2*l.* per fm. In the 20, west of ditto, lode 18 in. wide, with stones of ore. In the whim-shaft, below the 12 fm. level, lode 15 in. wide, poor. At Nicholson's shaft, the men will begin to sink below the adit next week.

WEST WHEAL JEWEL.—In the 57 fm. level, west of Williams's cross-course, on Wheal Jewel lode, lode worth 2*l.* per fm. In the 47 fm. level, driving east of Williams's cross-course, on the same lode, lode worth 4*l.* per fm. In the deep adit, west of Williams's cross-course, on the same lode, lode not taken down in the past week. In the deep adit, west of Tregoning's shaft, on Tolcarne tin lode, lode producing stones of tin. In the stopes in the back of the 12 fm. level, west of Pryor's winze, on the same lode, lode worth 10*l.* per fm. In the stopes east of this winze, in the back of the same level, lode worth 11*l.* per fm. In the stopes in the bottom of the 12 fm. level, east of Tregoning's shaft, lode worth 16*l.* per fm. In the stopes in the bottom of the 12 fm. level, east of Tregoning's winze, on the same lode, lode worth 18*l.* per fm. These stopes are working on tribute.

WHEAL PENHALE.—In reporting on this mine to-day, I would first call your attention to the engine-shaft, and though in it the lode and ground are easier than formerly, yet the immense size which we are of necessity obliged to carry it, is very prejudicial to our sinking. The lode in the north end, 90 fm. level, is hove by a cross branch to the right, which will require some two or three days more ere we shall get on in it again; in the South end, in this level, the lode is very much improved to-day, principally in grey copper; the size is not yet, however, determinable. The lode in the winze in the bottom of the 10 fm. level north, is not quite so good as it was some few days since, whilst in the winze in the bottom of the same level south, it is as much improved. The several tribute pitches look very similar to what has been reported of them for some time past. The next sampling of ores will, I presume, take place in about a month. The quantity of lead, I should think, will not vary much from the last; but the copper I was, until to-day, rather led to suppose would fall something short, but if the improved state of the lode (as notioed) in the 90 fm. level end south continues, we shall be up to the late quantity.

WHEAL TRELAWNY.—The lode in the 82 fm. level, north of Phillipa's shaft, is 5 ft. wide, and worth 9*l.* per fm.; in this level south the lode is 5 ft. wide, and worth 9*l.* per fm. The lode in the 72, north of this shaft, is 3½ ft. wide, and worth 10*l.* per fm.; in this level south the lode is 2½ ft. wide, and worth 8*l.* per fm.; the stopes in the back of this level are still very productive. The lode in the 62, north of this shaft, is 4½ ft. wide, and worth 17*l.* per fm.; the stopes in the back of this level, both north and south, are usually productive. At Trelawny's shaft, in consequence of our fixing the new pitwork, we have not yet been enabled to cross-cut the lode further in the 72 fm. level. The lode in the 52, north of this shaft, is 2½ ft. wide, and worth 8*l.* per fm.; the stopes in the back of this level, both north and south, are still usually productive. At the north mine the lode in the 55, north of Trehane, is 2½ ft. wide, and worth 8*l.* per fm. We have thought it requisite to suspend driving the 45, north of Trehane, and the 40, south of Smith's, in consequence of the hardness of the ground; but shall speedily effect a communication to those levels by rising from the back of the 55 fathom level. Smith's shaft has not been sunk since our last report, in consequence of an increase of water; but is now drained, and will be immediately resumed. The lode in the 40, north of Smith's shaft, is 1½ ft. wide, and worth 3*l.* per fm.; the stopes in the back of the 40, north and south of this shaft, are still usually productive. On Thursday last, we sold a parcel of lead ores, computed 108 tons, to the Tamar Smelting Company, at 16*l.* 16*s.* 6*d.* per ton.

WHEAL TRESCOLL.—I stated in my report of last week that we had cut a rich course of tin in B lode No. 2, going west. I am happy to inform you that it is still making west, nearly as good as when first cut. The lodes east still continue good, likewise all the stopes throughout the mine. We sold, last Friday, about 3 tons 4 cwts. of black tin, and made 56*l.* per ton; the best price given. I do not know of any other mine having so high a price. We have cut, in sinking the engine-shaft, a fine branch, or dropper, dropping in the B lode, carrying good tin; so we may expect, when we cut the B lode, to have a fine deposit of tin at this point. The ground is going much fairer in the engine-shaft as we are nearing the B lode. The lifts are all in their places, and work well; the new wheel for stamps is getting on satisfactorily. We expect to have a larger sampling of tin next month; but we have only eight heads of stamps at work.

WILLIAM AND MARY WORTH.—The tributers continue to raise work for silver ore of a fair quality; the lode presents indications favourable for productiveness. We sold for July two parcels of silver ore, which realised 30*l.* 10*s.* 11*d.* There is no doubt on my mind that, on employing additional hands, there could be a proportionate quantity of ore raised.

WHEAL VINCENT.—The ground in the cross-cut, driving north of the engine-shaft, is still easy for driving; for the last 3 ft., the ground appears to be of a darker nature, as we might expect, on approximating the lode. We have taken down the north lode in the stopes in the bottom of the adit, and it still continues fair stamps' work. Our new stamps are at work stamping from this lode, as the old stamps are engaged in stamping the tributers' work from the south lode; this lode is about 15 fms. to the west of the whim-shaft, is very good, and has every appearance of a continuance; the stopes to the east of this shaft are producing real good work for tin; we have already opened about 30 fms. on this lode; and the both ends still continue good, and are opening it to a greater length.

FOREIGN MINES.

BAROSSA RANGE MINES.—The following report has been received:—

Angaston, April 19.—I beg to hand you particulars of the copper ore sent, per *Royal Archer*, from your mines here:—From Greenock Creek Mine, 161 bags—8 tons. 15 cwt. 1 qr.—Produce, 19 per cent; this ore is put through a half-inch riddle, therefore will not want any further preparation for sampling. From Lyndoch Valley Mine, 412 bags—19 tons 13 cwt. 1 qr. 14lbs.—Produce 30½ per cent., or thereabouts. You may find the per centage of this to vary a little, because the ore is so hard we could not bruise it to a proper size for sampling, without great expense. The other part of the ore is from Mount Barker, the exact weight of which I have not got, as the dray-notes have not come to hand, but you will see from the bill of lading how much it is. When I was at port 35 tons were put on board; we then had prepared at the Bremier Mine (Mount Barker) 4 tons more, but whether it is put on board since I have not been able to know. The per centage of the first ore sent from the Bremier Mine is 21½—the last 4 tons, 26. I wrote you a report on the 16th inst. [see *Mining Journal*, Aug. 4], since which I have been at Lyndoch Valley, and find the lode presents good stones of copper in its eastern wall; and the ground alongside is very favourable for driving, and congenial for copper; and should this lode not turn out well, it will be of no use to take notice of favourable indications; for we have now proved that the lode produces saving work for 10 ft. wide. The whole width of the lode is 40 ft., principally composed of quartz: and although we shall, at the present level, break a good portion of excellent ore, yet we shall not know its value until a few fathoms deeper.

ST. JOHN DEL REY MINES.—*Morro Velho, June* 8.—Produce for May, 22,383 oits., equal to 215·03, from 6583 tons of ore, yielding 3 4-10 oits. per ton troy.—Stamps working during the month average 94 9-10 heads.

Cost for May, Rs. 39,296 $548, at 2s½		£4216 3 10
Produce	22,383 oitavas	
Less duties, 7 per cent.	1,566 ,,	
Net oitavas	20,817—at 7s. 7¼d.	7914 15 11
Profit		£3698 12 1

ASTURIAN MINING COMPANY.

A meeting of shareholders was held at the offices, Austinfriars, on Thursday, the 30th August.—JOHN HEMMING, Esq., in the chair.

The SECRETARY (Mr. K. Mackenzie) read the minutes of the meeting of the 31st of July. The directors had reported to the shareholders the decree of the Spanish Government of the 26th of June, dissolving the company. Certain bills would be due, which it was necessary to meet, or the works would be liable to be stopped. There was sufficient stock to repay the company. At this meeting, in order to meet the liabilities, a subscription was made of 2067*l.* 10*s.*, which had been paid into the bankers as a separate loan account. After a short discussion, it was proposed that a special meeting be held, to appoint three or more shareholders to assist the directors. On the 25th August a special meeting was held, on which day the following gentlemen were appointed to form a committee:—Robert Moore, Michael Forester, and James Scott, Esqs.

The minutes of the first meeting having been confirmed, Mr. MOORE moved that the minutes of the second be not confirmed; the resolution, of which the minutes treat, would either suspend or rescind the authority vested in them. He had examined the decree, and would advise that no steps be taken with the Spanish Government until they had the fullest information. If the allegations contained in that document were true, there had been a series of defects, not to use a harsher term, which had shown great remissness and mismanagement; if true, there seemed, as they had been put in liquidation by the Spanish Government, that there was no other resource than to wind up the company. Among the allegations contained in that document, there were three which required special observation—first, the non-registry of the documents, so as to make a legal society in Spain; secondly, their irregularity in not paying up the capital within a prescribed time; and, thirdly, the formation of the company in England, instead of Spain, which was repugnant to the spirit of the enterprise. According to this allegation, it appeared that the balance-sheets did not agree —66,000*l.* not appearing on the balance-sheet at Mieres, although it stands here as remitted. He did not wish in any way to cast imputations on the directors. He was aware how difficult it was, from their different habits of business, to carry out any negociations with the Spaniards. If these allegations were sustainable, it would be much better to retire with a loss of 15 per cent. of their capital, than to take the chance of any further losses which might accrue; if untrue, he thought the company should immediately demand the rescinding of that decree. It appeared that, with the capital and the liabilities, about 200,000*l.* had been expended. This investigation could not be conducted in a hurried manner, but only by an independent committee, who would, at the same time they had the confidence of the shareholders, have the confidence of the claimants. Among the items, he observed there was a claim of Count Becdelairer for 8000*l.* as an indemnification for 105 shares, which had not been delivered to him. If such a committee were appointed, it would be the means probably of saving them from an immense mass of litigation; if conducted in a hurried manner, they might be forced into a court of equity—the termination of which they could not foresee. He was surprised that a company which had been formed so long, had not previously had a committee of investigation.—The SECRETARY remarked, that a committee of investigation had some time since taken place.

A SHAREHOLDER said, that this had not been perfected.

The SECRETARY observed that the gentleman, who was one of the members, had signed it.—A SHAREHOLDER: This was only conditionally; documents and papers were at various times promised from Oviedo, which had never been forthcoming.

The CHAIRMAN said, that nothing would give the directors more pleasure than that a committee of investigation should be appointed, who might have free access to all the books, and the assistance of the secretary.

Mr. MOORE said, that would leave the question to older shareholders; but his opinion was that the investigation should be general, not limited. He wished to know that if at the time the company were formed they had any certificate.

The CHAIRMAN said, that they did all under the advice of a Spanish notary. The new law, passed Jan., 1848, imposes the necessity of a director in Spain; this they had not complied with. If they succeeded in rescinding the decree, they would be utterly ruined; if the shareholders would pay their calls, about 35,000*l.*, it would enable them to become a flourishing company; the first effect of the rescinding of the decree would be to break off the negociation. If the decree was rescinded, what would be the situation of the directors? It would not be prudent to fly in the face of the Spanish Government. Advertisements had appeared in the English, French, and Spanish papers. He would suggest that the committee be continued, with power to add to their number, carefully to investigate the affairs of the company, and report at the next meeting of proprietors.

Mr. MOORE asked the solicitor of the company what provision there was made in the statutes, in the event of a dissolution?

The SOLICITOR said that the company was already, by the decree of the Spanish Government, dissolved. According to the 37th article of the bye laws of the company, it stated that in the event of dissolution, a committee of three shareholders should be appointed, to act in conjunction with the directors.

Mr. MOORE did not think that they were dissolved in England by a Spanish decree; he should not further oppose the confirmation of the minutes of the special meeting. The minutes were then confirmed.

The CHAIRMAN said, that at the last meeting the negociations for the transfer and sale of the property not being in such a state of forwardness, and the company's agents, who were entrusted with powers to negociate, not approving of the proposals of the agents of the opposite parties, and from the prevaling epidemic at Paris, these being very protracted, they had thought, while they were in such an uncertain state, it would be unwise that anything which might occur, so unprepared, should go before the public. For this reason they had thought it prudent to exclude the gentlemen of the press, and not out of any want of courtesy to that useful body. Several interviews had since taken place between them. This unavoidably occasioned great delay. To-day they had received a tangible offer, which, he should inform them, not as an official note, but one to be laid before the committee, to be reported at the next meeting. By this it would be seen that they were perfectly agreed. It was proposed that a new company should be formed in Spain; this company to be divided into 100 parts, 60 parts to be given to the Asturian Company, and the remainder to the new parties, who were to find the capital of the concern. This would make the capital in reality 175,000*l.*, which would be thus subdivided: 105,000*l.* to the Asturian Mining Company, and 70,000*l.* to the other parties; the shares would be of the value of 2000 rials, or 20*l.* It was proposed to pay 6 per cent. interest on all the shares The interest was to be paid first on the preference shares of 35,000*l.*, and the profits divided in equal proportions. They had likewise engaged to take the stock of the company by valuation, and to convert the pig-iron into bar-iron, and the cinnabar into mercury. It was proposed, that in the new company the British proprietors should nominate two directors out of five, or one out of three. The operations were going on as if nothing had occurred, and the authorities at Oviedo appeared most favourably disposed towards them. Their stock of pig-iron was about 14,000 tons, though a portion of it (about 500 tons) was of inferior make, and would not weld, yet it could be converted into nail, rod, sheet, and hoop iron. The iron they were now making was of superior quality; on some of it, which they had sent to Bilboa, they had advanced as much as 10*l.* per ton. The mercury mines were better than ever; they had, however, been grossly mismanaged. Mr. Mason, who was the practical chemist, was a clever young man, and he believed would do them justice. Previously, though they had a pump there, four men were employed in baling out the water in buckets. It was proposed that an adit should be cut on the course of the lode, as it had been proved that, as the mine deepened, it became more productive; the cost of this adit would be about 200*l.* Under present circumstances, they had, however, thought it prudent to suspend the carrying out of this object. Their coal mines were valuable, but nothing could have been worse managed; instead of producing a mere trifle, they ought to be returning some thousands per annum. Indeed, their prospects were never so good, or more likely to give profitable returns, than they were at the present moment, when they were so unfortunately stopped.

Mr. MOORE proposed that a committee be appointed to investigate the affairs of this company—to examine and report on the proceedings and accounts of the said company, as well in this country as in Spain, with a view to ascertain their validity, and the correctness of the grounds stated as the justification of the decree of the 26th June; and such committee shall be, and is hereby authorised, to adopt such measures, during the said investigation, as may be necessary to prevent any premature proceeding, or resolution, consequent upon the said decree, to protect the rights of the British proprietors. That all propositions for re-organisation, or dissolution, or for the transfer of the company's property, as well as all claims upon the company, be referred to such committee—that, pending such investigation, the directors should not do any act without the concurrence of the committee.—Mr. Loder was then nominated to serve on the committee, in conjunction with the three gentlemen appointed on the 25th Aug.; at the same time, it was agreed they should have power to increase their number.

The CHAIRMAN observed that, in all disputes, they should be decided by two arbitrators, chosen by each party—that, in case of their not agreeing, an umpire should be appointed; should they not arrive at a decision, it was to be reserved, without litigation, to the judgment of the Supreme Tribunal of Commerce in Oviedo.

Mr. CUNNINGHAM said, there was a gentleman largely interested in the company—the Count de Causuns—who at some inconvenience had travelled from Paris to be present at the meeting: he wished to know whether he could give his vote by proxy?

The SOLICITOR said, being a registered shareholder, he did not apprehend there could be any doubt.

Mr. MOORE observed, that a *cedula de credito* could only be regarded as a debenture share.

The SECRETARY observed, that it would be necessary to make some arrangements, as regarded the financial position of the company. Up to the 9th of November ensuing, they had bills to the amount of 5000*l.* becoming due; at the meeting of the 31st July they had received as subscriptions 2067*l.* 10*s.*; this had since been increased, so that they had 2737*l.* 10*s.* to meet liabilities.

The CHAIRMAN stated they had only the small blast furnace at present at work, which returned but 10 tons per week; they were obliged to pay the salaries, and it would be no extra expense for them to convert the stock; means must be found to take up the bills, to prevent the stoppage of the work.—A desultory conversation ensued, when it was proposed that another meeting should be held on the 25th of September, at 12 o'clock.—A vote of thanks to the chairman was then moved, and carried unanimously, and the meeting separated.

CWM ERFIN MINING COMPANY.

At a meeting of adventurers, held at the offices, George-yard, Lombard-street, on Tuesday, the 28th instant, the accounts were examined and passed, showing—Balance of last account, 59*l.* 14*s.* 8*d.*; labour cost for November, 157*l.* 6*s.* 8*d.*; ditto Dec., 136*l.* 7*s.* 4*d.*; ditto Jan., 173*l.* 16*s.*; ditto, Feb. 170*l.* 4*s.*; ditto March, 156*l.* 14*s.* 2*d.*; ditto April, 138*l.* 12*s.* 8*d.*; ditto May, 134*l.* 0*s.* 10*d.*; ditto June, 139*l.* 3*s.*; merchants' bills, 394*l.* 9*s.* 5*d.*=1660*l.* 8*s.* 9*d.*—By call of 10*s.* per share, 500*l.*; lead ore sold, Dec. 23*d* (less dues), 204*l.* 14*s.* 9*d.*; ditto March 26th, 230*l.* 3*s.* 6*d.*; ditto June 6th, 202*l.* 19*s.* 9*d.*: leaving a balance against the mine of 522*l.* 10*s.* 9*d.*—The accounts were passed, and a call of 10*s.* per share was made.—The following report was read:—

August 23.—Since my last report we have made a communication from the 10 to the 20 fm. level, about 18 fms. west of the whim-shaft; we have also holed the 20 fm. level east of the engine-shaft, to the 20 fm. level west of the whim-shaft, which will give great facilities for the proper working of the mine. The winze sunk from the 10 to the 20 fm. level has passed through ground worth on an average 10*l.* per fm., and we have laid open in the back of the 20 fm. level, ore ground for 40 fms. in length, worth from 8*l.* to 10*l.* per fm. We are still continuing to sink through a good course of ore under the 10 fm. level, 25 fms. east of the whim-shaft; the lode, for the length it is carried (12 ft.), is worth 20*l.* per fm.; this is sunk between 9 and 10 fms., and is likely to continue for a length of 20 fms., and in all probability will prove a very valuable piece of ground. In the last 6 in. we have been considerable retarded, in consequence of the very dry weather, but in the last two months, where we have had a sufficient supply of water, we have dressed ore enough to meet our expenditure, and give a profit of 100*l.* for that time; we are now in a much better position for raising ore, and can now break 25 tons monthly, at an expense of 200*l.*, which we can calculate to leave a profit of 160*l.* per month, but this cannot be done through the year, unless we erect a small steam-engine, which I fancy would cost 300*l.*

EAST WHEAL JOSIAH.

A meeting of adventurers was held at Tavistock, on Friday, the 17th Aug., when the statement of accounts for April, May, and June was presented, showing a balance of 15*l.* 9*s.* 3*d.* against adventurers, and a call of 2*s.* 6*d.* per share was made.—The following report, from Capt. Wm. Richardson, was read:—

August 17.—There have been driven since the commencement about 70 fathoms on the course of the lode; for the first 40 fms. the lode was, on an average, 2½ ft. wide, composed of gossan, peach, prian, spar, and mundic, with occasional spots of ore, altogether of such a character as to induce its prosecution. I regret to say, however, that for the last 30 fms. the indications have not been so good, the lode being composed, for the most part, of killas, with mundic; it has, however, maintained its size, and has, at its present point of working, two well-defined walls of flookan and mundic. In the last 9 ft. driving we intersected a small cross-course, underlaying east, on the eastern side of which the lode seems of an improved character, and sufficient to recommend your trying it with further effect. We have now about 90 fms. to drive before we may expect to cut the great cross-course, already alluded to in former reports as the chief feature of this adventure.

SOUTH WHEAL JOSIAH MINING COMPANY.

At a meeting of adventurers, held at the Queen's Head Inn, Tavistock, on the 25th August, the accounts were examined and passed, showing—Balance from last account, 10*l.* 8*s.* 10*d.*; calls, 70*l.* 0*s.* 8*d.*=80*l.* 8*s.* 10*d.*—By labour cost, May, 14*l.* 16*s.* 1*d.*; ditto June, 17*l.* 17*s.* 9*d.*; merchant's bills, 20*l.* 4*s.* 10*d.*—leaving balance in favour of the mine, including 12*l.* 10*s.* calls unpaid, of 27*l.* 10*s.* 2*d.* Mr. John Trestrail claimed four shares, as having applied for them previous to allotment, and Mr. Oliver Burgess 10 shares, but it was resolved they were not entitled to them, as it was only in consequence of the improvement in the lode that they now claimed them. It was also resolved that 118 unappropriated shares be divided among the shareholders, at the rate of three-quarters of a share to each share previously held, and that the residue, 14½ shares, be considered stock of the company, and offered for sale to the shareholders. Messrs. T. Nicholls, J. Mathews, J. Carpenter, J. L. Commins, and J. Sims, were appointed the committee; a call of 10*s.* per share was made, and the following report was read:—

August 25.—I have much pleasure in presenting you with a report of the above mine, and in doing so, would congratulate the adventurers on the great prospect of success by cutting such a fine lode of ore, with such a small outlay; the adit end is now driven about 30 fms. on the Wheal Jack Thomas lode—which is about 5 ft. wide altogether, the leader or grey part is from 30 in. to 2 ft. wide, carrying rich work for ore, and the lode altogether is of a nature to warrant our expectation of, by-and-bye, having a rich paying mine. The end is now driving by three men and three boys, at 2*l.* 10*s.* per fm. I would recommend this end to be forced on with all speed towards the cross-courses that are before us, where we may reasonably expect near these to find large deposits of ore. I would also recommend to employ a man to cut the south lodes—the Hawkmoor and others that come through that part of the sett, and also to make some preparations to dress the ore coming from the present end, having already some tons brought from the lode, and hope soon to have a good sampling.

NORTH POOL.—At a meeting of adventurers, held at the mine, on the 28th August, the accounts were examined and passed, showing—Balance at last account, 178*l.* 15*s.* 1*d*; copper ores sold (less dues, 372*l.* 17*s.* 11*d.*), 5220*l.* 11*s.* 5*d.* =5399*l.* 6*s.* 6*d.*—By cost for May and June, 1945*l.* 12*s.* 9*d.*; dividends, 22*l.* 10*s.* per share, 2250*l.*: leaving balance in hand of 1243*l.* 13*s.* 9*d.*

KINGSETT AND BEDFORD MINE.

SIR,—An article was inserted in your last week's Journal, in reference to the above mine, calculated to convey a wrong impression to distant shareholders, by parties ashamed to append their names to the statement, stating that at the meeting held on the mine, the 6th August last, the "report," "resolutions," "accounts," "calls," &c., as stated by circular of the 9th, actually were passed by such meeting. Now, to be plain on this matter, and being present at the meeting, although a small shareholder, I beg to give that statement a direct contradiction. It is stated that some of the parties left, and went to the Great Wheal Friendship, and did not return until the business was concluded. The facts are, all went, with the exception of the two auditors and a Tavistock shareholder, who was unable to walk. Even our "purser," and the chairman, who it is said presided, accompanied us there and returned together. I have yet to learn, that business so important can be transacted in a legal way in their *absence*. The accounts were previously audited, no doubt, and may be correct. That these things were all contemplated by the committee, as necessary to have been passed, may be equally true; but to put forth a *false statement* of this description, and append the names of those who attended to it as being correct, is, to say the least, an *insult*. The word "litigeous" will not prevent me from placing the adventurers in possession of how their business is being conducted. It is desirable to see so important an undertaking carried out in a business-like manner, which is certain to give large dividends under proper management; but *mining* committees may require as much looking

after as railway directors. However, for the satisfaction of the adventurers (as the committee has declined calling a special meeting to inquire into this matter), who ought to know if this statement is or is not true, I call on the "purser," Mr. Tunewell, to prove the truth of the statement contained in that circular, through this Journal, and to say by whom these resolutions were proposed, calls made, and who were present.—JOHN JURY: *Exeter, August* 28.

THE HAWKMOOR MINE.

SIR,—Having had some business to attend to at Calstock,—on my way to Tavistock, I called at Hawkmoor Mine, where I saw the Rev. James Carthew, who had just come up from underground with some rich stones of copper ore, which had that day been broken from the bottom of the shaft. I felt inclined to go down and see for myself. When I got to the bottom of the shaft, which is, as I believe, about 4 fms. below the 20 fm. level, I was much pleased to see such a splendid course of ore, the lode being 2½ ft. wide, 20 in. of which being solid copper, very rich; the other part of it is white spar, peach, copper, &c. A prettier lode I never saw; it will turn out from 5 to 6 tons of ore to a fm., 6 ft. long, and 6 ft. deep. They have a very kindly lode in the west end in the 20 fm. level, producing 1½ ton to the fm.; this is improving as they open on it. In the east end there is a large and kindly lode against a small cross-course; I have every reason to think there is a good lode the other side of the cross-course; this will be a lasting and good dividend-paying mine. I am led to think the lode in the shaft is of a different character to what it has been in the upper levels. I should think that, if the ore be carefully managed at surface, it will produce from 12 to 14 per cent. fine copper. JOHN SEYMOUR.

St. Cleer, August 28, 1849.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

BRYN-AR-IAN MINE, TALIESIN, NEAR ABERYSTWITH.—This mine was taken up within the past six months, is progressing highly favourably, and fully equal to the expectations entertained: 1000*l.* was subscribed in the first instance for the prosecution of the workings, and 40 fms. driven on the lode in the adit level in ore ground, varying from ½ ton to 3 tons per fathom. The quantity of ore sold last month was 20 tons, at 9*l.* 15s. per ton—the monthly cost being 140*l.*; and will sample for the next month, 25 tons, at a cost of 150*l.* A meeting is to be held on the mine on the 17th Sept., when it is proposed to make a call of 1200*l.*, with the object of erecting additional machinery. No debts are due on the concern; and it is hoped that many months will not elapse ere a dividend is declared.

SOUTH WHEAL JOSIAH.—I am glad to inform you that this concern is looking well, the lode having increased in size in driving the adit end, which is now full five feet big. The meeting on the 25th went off well, and was numerously attended; the shares which had not been taken up or allotted were divided among the adventurers, with the exception of 14 or 15, which are to be disposed of. Several shares have changed hands, and there is a general inquiry after them; 15*l.* has been freely offered on the 1*l.* paid. There has been a further call made of 10s. per share, payable on the 10th September. If the shares on hand be sold at the current market price, it will give a balance, in the hands of the purser, of 200*l.* or upwards, in addition to the call. This discovery has given new life to adventure in the neighbourhood.

THE OLD BRIMPTS TIN MINE.—We understand a grant of this sett has been made to a company by the Duchy of Cornwall, at 1-18th dues, and that one-half the shares are already taken up. It has long been known that this mine produced large quantities of rich tinstuff to the ancients, and there are now living witnesses who remember its being worked with much success 50 years since, the then owner refusing to let it out even on tribute, from a fancy that the miners cheated him. Since then it has been unworked, although many have wished to obtain the grant. The sett extends one mile from east to west on the course of the lodes, and half a mile from north to south; there are several lodes which were formerly worked on, and no doubt exists among practical men but that it will become one of the richest tin mines in the county. In a report from Mr. John Hitchins, he states that the stratum is soft and congenial, that the lodes are large, and doubtless productive, and that there is sufficient water power, from the East and West Dart rivers, for all requisite purposes.

COMPANY OF COPPER MINERS IN ENGLAND.—We regret that the labours of the committee of adjudication have not proceeded so favourably as they anticipated. Mr. Lord, the plaintiff in the late suit, is, we understand, about to commence fresh proceedings in equity. The circumstances which have led to this result we shall be able to put our readers in possession of in our next week's Number.

SMELTING WITH BOVEY LIGNITE.—Some experiments have been made by Mr. Prince, mining engineer, on smelting the peroxides and micaceous iron ore of the Hennock iron and tin mine, situated two miles from Bovey Tracey, and 12 from Exeter, with the lignite, or brown coal, of the former district, which show that the process may be successfully carried out. It has been found, however, that no good will result by using the upper stratum of inferior coal, which contains traces of sulphur, and a large portion of ash; and there is every indication that if machinery was erected to enable the mines to be drained deeper, a coal would be found approaching much to the character of anthracite. The ores of peroxide were easily deoxidised and reduced by using a proper admixture of the wood, coal, and lime; one sample was of very superior quality, and well calculated to make good steel; while one, smelted with common coal, is crystallised and brittle. Mr. Prince states it as his belief, that valuable tin ore will be the predominating metal in depth; but that there is sufficient iron on the backs of the lodes near the surface to pay a good profit, above the cost of their full development.

We are glad to hear that the Briton Ferry Iron-Works, which have been for some time past "out of blast," will soon be resumed on an increased scale, under the auspices of Messrs. Scale and Co., the enterprising ironmasters. We are informed that numerous hands have been engaged.—*Swansea Herald.*

ACCIDENTS.

Great Polgooth.—J. Tonkin fell away from a ladder, a depth of 20 fms., and was killed.

Sedgley.—As Thomas Cox was at work with another man in the hollows of a coal pit at Shut End, a large quantity of clod suddenly fell from the roof of the workings, and covered his body. On the clod being removed from Cox, it was found that he had received several severe cuts on his head, from which injuries he expired.

Kingswinford.—John Flavel was instantaneously killed in a coal pit, at Plant's Colliery, by a large quantity of coal suddenly falling upon him whilst he was loading a skip. Another man, who was helping the deceased to load the skip when the coal fell, had a very narrow escape of his life.

Greasborough, near Sheffield.—Peter France, a collier working in the Swallow-wood pit belonging to Earl Fitzwilliam, was killed by an explosion of fire-damp in that pit. It appeared that France (who was an experienced collier) had been so imprudent as to proceed to his work with a naked candle, instead of using a lamp which was provided for him, thereby causing a dreadful explosion, which, if it had happened a few minutes later, would have been fatal to other parties who were going to their work in the same pit, many of whom were thrown down and injured, but not fatally. The coroner and jury urged the colliers to be more careful, and not on any account to proceed to work without the party employed for the express purpose had first ascertained that the men might proceed to their work with safety.—*Sheffield Times.*

Tividale.—J. Jones, aged 13, was killed by a fall of coal, at Messrs. Caddick and Mason's pits. The deceased, having his dinner on his lap, was unfortunately prevented from making his escape to a safe part of the pit, although a momentary warning occurred, of which his companions luckily availed themselves, and saved their lives. One man, however, named Job Aston, sustained several severe contusions, and the calf of his right leg was dreadfully lacerated. On the same day a fall of coal occurred at Messrs. Bate and Robins's pits, by which Michael Buszum was seriously injured.

EXHIBITION OF ARTS AND MANUFACTURES.

A striking exhibition of arts and manufactures commences on Monday next, and will be, on a small scale, what the great national one suggested to take place in London in 1851, will be on a large one. The articles already arranged for inspection are varied, and of the most superb description, comprising metal work, bronze, brass, and iron, and the display will be such as to do honour to the manufacturers and artisans of Sheffield goods. In glass, F. and C. Osler contribute some splendid specimens of chandeliers and candelabra; and other branches of the same material will find representatives in the articles exhibited by W. and T. Richardson, of Stourbridge; Bacchus and Son, Lloyd and Summerfield, and Rice Harris, of Birmingham; and the Patent Decorative Glass Company, London; whilst in stained glass, Messrs. William Chance and Sons, of West Bromwich, and John Hardman and Co., of Birmingham, will make a most interesting display. In buttons there are some highly novel and beautiful specimens from William Elliot, Hardman and Iliffe, and Smith and Kemp, of Birmingham; whilst the metal department of the art of die-sinking will be fully exhibited by Allen and Moore, Hardman and Iliffe, and Edwards and Ball.

In porcelain, Messrs. W. T. Copeland and Co., Minton and Co., Wedgewood and Co., and Ridway and Co., of the Staffordshire Potteries, all exhibit the highest and best specimens of the products of their respective houses; whilst Worcester is fairly represented by the contributions of Messrs. Chamberlain and Co. and H. Grainger, whose new material of semi-porcelain will not form the least interesting feature of a display, which, as a whole, will certainly be the finest of its kind even seen in this country since Wedgewood fairly established the pottery trade. In textile fabrics, which in all probability will be less adequately represented than any other department of manufactures, there will be found a few choice specimens of Spitalfields silk from Mr. Isaac Boyd, of Spital-square, London; Utrecht, and other stamped velvets, from Bennett's, of Manchester; and the cotton print trade in garments will be partially illustrated by the Strines Company, of Derbyshire and Manchester; M'Naughton and Potter, and Dalglish, Falconer, and Co., also of Manchester, and the furniture cottons by Swainson and Dennys, of London. In miscellaneous contributions, there will be articles of great merit from the Patent Machine Carving Company (Jordan's), London; ornamental sawing by Prosser and Hadley; carpets and rugs from various Kidderminster houses.

THE ELECTRIC LIGHT.

[Specification of patent granted to Charles Thomas Pearce, Esq., of Park-road, Regent's-park, for "Improvements in Apparatus for obtaining Light by Electric Agency."]

The following is the substance of Mr. Pearce's specification:—The first part of my invention relates to an apparatus consisting of a framing, which I prefer to be of wood; the lower part of this framing supports a clock-work movement inclosed in a case; on the top of the apparatus are seen the electrodes with their supports; a bar of carbon (forming one of the electrodes), the cross-section of which may be cylindrical, triangular, or of other convenient form, the projecting edge or surface of which, when the sectional form is other than cylindrical, is presented to its fellow electrode, which is circular in form, that is, a disc—and revolves at the same time that the said bar of carbon is advancing upwards. In the drawing the disc is represented as being placed at an angle of 45°. With respect to the bar or rod of carbon, other angles may be given to the disc, but I prefer the one shown; a split sheath partly encloses and serves as a guide for the bar electrode. This sheath may be of metal, but I prefer glass for the purpose. To the top of the sheath is fixed a metal collar or ring (or supported to the frame-work or otherwise), into which are inserted three platinum wires, each furnished at their upper ends with iridium, which is fixed on to the platinum wires by bringing them between the terminal wires of a galvanic battery, of sufficient intensity to fuse the iridium. The use of the iridium being to supply the current of electricity to the electrode, near to the portion where the light is evolved. A binding screw is provided, for making contact with the battery wire. The clock-work movement is so arranged, that, through the medium of the wheels and rods described, at the same time that the bar electrode is caused to rise through its sheath by the same clock-movement, motion is communicated to the disc electrode, suitable arrangements being provided for the purpose. Two cutters of iridium are attached by means of a metal spring to the framework; these press against the circular or disc electrode, and serve to cut off the redundant portions of carbon, and maintain a good presenting periphery for its next revolution.

Another mode of presenting the cage, or surface, of a bar electrode to another electrode, is as follows:—I employ two circular electrodes in combination with one bar, the bar being placed between the two circular electrodes, or discs. The advantage of this mode of mounting the electrodes is, that if from any cause, such as the unequal waste of carbon, or irregularity of its surface, the light should be extinguished at one point, the other remains burning, until, by the further revolution of the disc, or the advance of the bar, the electrodes are again brought into contact, and the second point, or source, of light is restored. I have also employed three circular electrodes, in combination with one bar, the bar presenting three angles, or surfaces to the circular, or disc electrode. Thus an advantage is gained over the apparatus hitherto employed, by presenting three several centres of light, so merged, as to appear as one only when used with a reflector, or reflectors, and the liability of the light to being extinguished rendered much less. Reflectors used may be of glass, or of metal; I prefer making them of copper, by electro-precipitation on a mould, or matrix, prepared of the proper form. By this method an unlimited number of reflectors may be made of the same exact form, and at a less cost than of manufacturing in the ordinary way under the hammer. Having precipitated the copper on matrices with polished surfaces, I afterwards silver the surfaces by electro-precipitation. The cover of the glass shade enclosing the apparatus is furnished with a syphon tube at its upper surface, to allow the gaseous products of the combustion of the carbon to escape into a vessel containing water, or other liquid. I would remark that, although I prefer to use bar electrodes with disc electrodes, two bar electrodes may be employed in an apparatus, in such manner as to cross each other at an angle; and then, by giving a slow progressive motion to each of the bars, a continuity of fresh surfaces of the electrodes will result.

An apparatus, in which the use of clock-work is dispensed with, consists in a stand or frame of wood, in the centre of which is fixed a split sheath; within this sheath is a solid rod, to the lower end of which lines are attached, passing upwards over two pullies, and descending to the weights. Resting on a solid rod is a bar electrode; at the upper end of the sheath are iridium supporting conductors, such as before described. To the frame is fixed an upright, with a slotted opening therein, which receives the stem of a jointed piece, supporting the upper electrode and its appendages. Two tubes are supported by the uprights from the frame, and furnished with joints. Three tubes of brass form enlarged parts of the said tubes, each containing a spiral spring, which, by means of rods, press on the pieces of carbon contained in the tubes, forcing them towards the lower electrode. To the upper tube is fixed a carbon holder, composed of metal and pipe-clay. A metal collar is fixed to the tube by means of a screw, carrying another metal collar, which is attached to it by three wires. To this metal collar is attached an earthen cone, which may be of pipe-clay, phosphate of lime, or other earthy substance difficult of fusion and hollow within, to receive the bar of carbon. The cone is contracted at its lower end to prevent the bar of carbon being urged onward too rapidly; there are two holes in the cone, to receive the wires connected with the metal ring, admitting of their coming in contact with the carbon. For the springs in the tubes a falling weight may be substituted. The two lateral bars of carbon contained in the tubes are non-conducting carbon; the upper and lower bars of carbon are conductive. The battery being connected with the upper and lower electrodes, the current passes through them, producing, by the separation of the bars from each other, the required light. As the lower electrode becomes wasted by the action of the current of electricity, the weights urge it upwards, until it is checked by the lateral bars of carbon, which press on it near its upper end. When electrodes are required of considerable length, I graft together several pieces of carbon by either of the following methods:—In the ends of each piece I drill a cavity, into which I insert a piece of carbon, of a shape that will fit firmly into the hole, and long enough to project therefrom; this projecting part fits into a similar piece of carbon, and the two being brought together become firmly united as one piece. Another mode of grafting or joining together, which I sometimes adopt, is the following:—In the side of the bars I make a groove longitudinally, into which I insert a smaller bar or slip of carbon, which, running in two or more bars, the whole become as one. Another mode of forming electrodes is, to combine together two or more pieces of conducting and non-conducting carbon, so that the surface presented to the action of the current shall be of conducting matter, while the rest of the electrode shall be of non-conducting matter. This I accomplish, either by the insertion of one into the other by a groove or union of surface, or by any other efficient mode, to secure contact between the parts. What I mean by non-conducting carbon is ordinary charcoal; whilst that which is conductive has been subjected to a high temperature in a close vessel, as is well known to electricians.

Another, the second part of my invention, consists in an apparatus for restoring contact between the electrodes, and thus regulating and ensuring the continuance of currents of electricity in apparatus for obtaining lights, as it sometimes happens that a current of air, suddenly acting upon the light, may blow out the arc of flame, as in exposed situations, where not perfectly protected, by which the current will be interrupted. At one end of a lever is a short metal tube, into which is fitted a piece of carbon, or other suitable conducting material, shaped like a wedge, or of a convenient form; to the other end of the lever is connected a soft iron armature, to which is attached a spiral opening. The lever is kept in a fixed position while the current is passing round an electro-magnet, which holds the soft iron armature in contact. The instant the light is blown out, the battery contact being broken thereby, the magnet loses its power, and the spiral spring draws up the armature, and therewith the end of the lever, allowing the other end to fall, bringing the piece of carbon down between the electrodes; the circuit is by this means restored, which, as soon as done, the magnet resumes its power, and moving the piece of carbon up again, the light is restored.

Another, the third part of my invention, consists in regulating the duration of, and intervals between, the light for signal lights, light-houses, and other purposes, where an intermittent light is desired. This I effect in the following manner. To one of the arbors of a time keeper I affix a wheel, composed of conducting and non-conducting material—say brass and ivory alternately—and having other suitable appurtenances. As the wheel is carried round by the clock work, the insulating portions and the metallic portions are alternately brought in to contact with the battery by means of a spring. The spaces between the metallic portions are of a suitable width to the required intervals of time.

In applying this regulating principle to apparatus giving light, one of the electrodes is alternately made to approximate to, or recede from, the other, by means of an electro-magnet, which being under the influence of the same current, keeps the electrode in its proper position whilst the current is passing, and the light maintained. The instant contact is broken by the wheel, the magnet loses its power, and the electrode recedes from the other; when contact is again restored, by the further movement of the wheel, the electrode as quickly resumes its proper position by the action of the magnet. A like apparatus is used to obtain more uniform action of currents of electricity by being the means of alternating the times of use of two or more batteries, in such manner that the time of giving light by means of each battery shall be regulated. When a battery has been kept in action for some time it has been found that the current fluctuates considerably, and the amount of electricity given off is much diminished, which is restored by breaking contact of the poles. I do this by the application of an apparatus similar to that last described, in conjunction with two or more galvanic batteries, so that each is put into and out of action alternately. The galvanic battery being charged, one of its wires is connected with the wire of a temporary, or electro-magnet; the other wire of the battery being connected with one of the electrodes, the other electrode is connected with the other wire of the magnet. The carbon electrodes being placed in contact, and the currents passing, the magnet is deflected, at the same time moving a toothed wheel, and through the train the electrode from its fellow-electrode to a certain distance, according to the amount of battery current passing.

Another part of my invention consists in an improved mode of constructing galvanic batteries, by which, firstly, the fluids employed therein are more equably supplied to each cell, and more readily removed, as they become unfit for use by continued action. The trough, known as Massi's perfluent, has been long used, and improvements therein have been made and claimed, in a recent patent, by Mr. Staite—in all of which there is an objection, on account of the fluid in some of the cells of the battery being of greater strength than in others in the same battery, giving rise to unequal action in the series, and consequent loss of power. My improvements under this part of the invention consist of an arrangement by which each set of plates (metallic elements) may be removed at once, instead of every plate singly, and of an arrangement by which the diaphrams form part of the trough, instead of being placed singly and separately in the cells. In this battery the fluids are supplied to each cell at the same time; and instead of the fluids being admitted at one end, and travelling to the other end, they are admitted at the side of each cell directly, instead of indirectly, from cell to cell. When only one fluid is employed as the excitant, it is admitted at the upper part of each cell, equally and simultaneously, by means of the trough, or cell, communicating with the cells by openings therein. The fluid, as it become saturated with the metal employed, is made to pass out of the battery on the opposite side, near the bottom, through openings into the outer trough, from which it passes into a receiver, which may be a cask, cistern, or any other convenient vessel. Where two fluids are employed, as sulphuric acid in the zinc cell, and sulphate of copper in the negative or copper cell, the acid solution is supplied above, as described for a single fluid battery; while the metallic solution is admitted below, and, rising as its specific gravity is diminished, passes out at the opposite side through the cell, or trough—out of which it again passes into a vessel, containing crystals of the salt employed, where it is renewed, and passes on to the next battery, which is placed at a lower level than the first.

In batteries, where concentrated acids are employed as the nitric, or nitro-sulphuric, in the Maynooth battery, or that of Grove, the diaphragm, or porous partitions, are necessarily made of porous earthenware. In other batteries, where the fluids employed are less corrosive, such as Daniell's battery, I prefer diaphragms made of sycamore wood, cut into leaves, or thin plates, and boiled in an alkaline solution, as potash. I prefer for this purpose muriate of soda, on account of its cheapness. The process of boiling the wood extracts the gum resins, and renders it conductive. After being boiled, I sonk them in cold water, acidulated with sulphuric acid, in the proportion of 1 part acid to 30 water. Other sorts of wood may be employed for making the diaphragms, but I prefer sycamore. Other fluids may be employed; thus, where a current of voltaic electricity is required to be kept up for several days, or weeks consecutively, I prefer employing alkaline solution, such as the muriates of ammonia, soda, or potash, or the sulphurets of lime, potash, or soda. The advantage of employing alkaline solutions over acids is, that the zinc employed therewith does not require to be amalgamated with mercury, as is the case where acids are employed.

Having thus described the nature of my invention, and the manner in which the same is to be performed, I would remark that I do not confine myself to the details herein shown and described, so long as the peculiar character of any part of my invention be retained; but what I claim is—first, the so employing bar electrodes, that the light shall be developed at the sides, or edges, in place of at points at the ends of, such electrodes. I also claim the mode of using bar electrodes when in combination with disc electrode, that the planes of the disc electrodes shall be held at an angle to the bar electrode used therewith.

I also claim the mode of causing the electric currents to be conducted near the point of bar electrodes, where the light is developed by employing holders, such as described. I also claim the means herein described for connecting, joining, and combining parts of bar electrodes; and I also claim the mode of employing bar electrodes, whereby a constant supply of non-conducting matter is kept up, to retard the approach of the bar electrodes employed.

Secondly, I claim the mode of regulating currents of electricity in apparatus for producing light, whereby, in the event of the light going out, contact shall be re-obtained by the introduction of a conducting substance, to be removed by means of an electro-magnet bar or coil.

Thirdly, I claim the use of clockwork for regulating the time of the apparatus, giving light as herein described, and I also claim the use of clockwork for regulating the times the separate galvanic apparatus shall be the means of giving light.

Fourthly, I claim the mode of regulating currents of electricity produced by a battery, by employing a magnetic bar or coil as described.

Fifthly, I claim the improvements herein described, of perfluent or maintaining batteries, applicable to the purposes of obtaining light.

New Patents.

SPECIFICATIONS ENROLLED DURING THE PAST WEEK.

Specification of patent granted to Benjamin Biram, gentleman, of Wentworth, York, for improvements in miners' lamps. The object of Mr. Biram in the improvements which form the subject of his present patent, is to increase the light obtainable from those miners' lamps which are constructed on the principle of what is called "the Davy Lamp," and to afford better protection to the flame from currents of air.

Claims.—I declare that the improvements in miners' lamps which I claim as embraced in my said invention, are—1. The combination of a metallic reflector with the burner.—2. The first cover (or door), composed partly of talc and partly of wire gauze, or wholly of talc.—3. The combination of the parts, whereby all access to the interior of the lamp is prevented, except by means of a key.—4. The employment of a pricker to raise, depress, or trim the wick, revolving on an universal joint, and moving to and fro in the ball of the joint.—And, 5. The combination of a wire gauze aperture, for the admission of air to the lamp, with a flexible tube leading from it to the open air.

Specification of patent granted to John Hick, of Bolton-le-Moors, Lancashire, engineer, and William Hodgson Gratrix, of Salford, in the same county, engineer, for certain improvements in steam-engines, which improvements are more particularly applicable to marine engines; and also improvements in machinery or apparatus for propelling vessels. The first of these improvements relates to the construction of the steam-engine, the chief features of which are as follows:—The cylinder, which oscillates, is laid horizontally; a piston-rod passes out at each end of the cylinder; those rods are connected to cranks; the shafts carrying these cranks have other cranks upon them, by which, with connecting rods, the power is transmitted to the main propelling shaft of a steam-boat. The second improvement is in the construction of a screw propeller, the chief feature of novelty being that each of the different screw blades is composed of two portions—the inner portion, that nearest to the shaft, stands nearly perpendicularly to the axial line of the shaft; the outer portion is inclined at an angle of 140 degrees with the inner portion of the screw-blade.

Claims.—1. The arrangements and disposition of the steam-engine above described.—2. The construction of screw propellers with two inclinations of the blades.

Specification of patent granted to Thomas Rowlandson, of Liverpool, chemist, for improvements in the treatment of certain mineral waters, to obtain products therefrom, and in obtaining certain metals from certain compounds containing those metals, and in obtaining other products by the use of certain compounds containing metals. The first improvement is in precipitating copper from its solutions by means of alkaline, earthy or metallic sulphates, preferring such sulphates as throw down the metallic copper alone without other metallic or earthy precipitates. The second improvement is in the treatment of such ores as contain copper, silver, and gold, either singly or combined, and a the same time combined with zinc. The zinc prevents such ores being treated in the usual manner for reducing the other metals. The patentee roasts such ores in the first instance (after they have been reduced to powder), keeping them for some time at a red heat, by which the zinc is converted into sulphate and oxide of zinc, the former of which is separated by lixiviation, the latter by means of sulphuric or muriatic acid. The third improvement is in forming stannates of soda and potash, by roasting the ores of tin with carbonate of soda and carbonate of potash in a furnace; during the process the mixture is kept stirred. The other improvements relate to the formation of sulphate of soda.

Claims.—1. The precipitating of copper from mineral waters or solutions containing copper by means of alkaline, earthy, or metallic sulphates.—2. The means of treating and separating zinc from ores of lead, copper, silver, and gold.—3. The forming of stannate of soda and the stannate of potash by treating the ores of tin, or other matters containing tin, with carbonate of soda and carbonate of potash.—4. The obtaining sulphate of soda by treating bisulphate of iron and iron with common salt.—5. The obtaining sulphate of soda by treating bisulphate of iron and subsulphate of iron with common salt.

Specification of patent granted to Charles Andre Felix Rochas, New-court, Saint Swithin's-lane, merchant, for improvements in the manufacture of oxide of zinc, and in the making of paints and cements where oxide of zinc is used. The first of these improvements has for its object the obtaining of a greater quantity of pure oxide from a given quantity of zinc than has been heretofore found practicable. The means employed for this purpose are subliming the zinc—the oxide of which is gathered in chambers, in which there are suspended ranges of bands, to which the pure particles of oxide adhere, and from which they are removed from time to time as they collect. The patentee prefers making the exterior covering of the chambers for collecting the oxide of canvas, which is wetted, and found to be of advantage. The oxide which collects on the canvas covering is removed by beating on the outside. The second improvement has for its object the employment of the coarser portions of the oxide, which are scraped from the passages, and other parts of the apparatus, for mixing with lime; and when so employed as mortar, the compound forms a very hard and durable cement. The patentee makes a durable white paint, or pigment, by taking 20 parts of the basis (oxide of zinc), four parts resin, two parts turpentine, and one part drying oil. This forms a very speedily drying paint.

Specification of patent granted to Charles Jacob, Nine Elms, Surrey, engineer, for improvements in the manufacture of earthenware tubes or pipes. The improvements have for their object the forming of a faucet or socket upon the ends of earthenware pipes, while they are being passed through a die-plate; this the patentee accomplishes by means of a socket mould, which fits upon the orifice in the dod-plate, through which the pipe is moulded; when the socket mould is filled with clay, it yields and goes along with the pipe being formed; it is held up to its place against the die-plate, or against the end of the pipe, by means of a counterpoise weight.

Claim.—The means above described for forming the sockets of earthenware pipes.

Specification of patent granted to William Brindley, Twickenham, papier maché manufacturer, for improvements in the manufacture of waterproof paper. The improvements consist in rendering either the long webs of paper made by the machine, or sheets of hand-made paper, waterproof, by means of oil (preferring linseed oil), with which the paper is saturated, and then subjected to a temperature of 200° or 300 Fahr. Paper thus prepared is useful for making paper-hangings.

Claim.—The process above described for rendering webs or sheets of paper waterproof.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

T. S. Prideaux, Southampton, gentleman, for improvements in puddling and other furnaces, and in steam-boilers.

J. Robinson, Huddersfield, York, orchil and cudbear manufacturer, for improvements in preparing or manufacturing orchil and cudbear.

C. Morey, gentleman, Manchester, for certain improvements in machinery or apparatus for sewing, embroidering, and uniting or ornamenting by stiches, various descriptions of textile fabrics.

A grant of an extension for the term of five years of a patent to G. Baxter, of Northampton-square, Clerkenwell, Middlesex, engraver and printer, for his invention of improvements in producing coloured steel-plate, copper-plate, and other impressions.

I. Bertrand, France, engineer, for an improvement in protecting persons and property from accident in carriages.

O. Pecqueur, of Paris, civil engineer, for certain improvements in the manufacture of fishing and other nets.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

T. W. Ingram, Bradford-street, Birmingham, self-calculating steelyard.

T. Melling, Rainhill Iron-Works, improved double-sash window.

W. C. Wilkins, Long Acre, improved spring weighing machine.

Rigby and Duckrell, Vauxhall-walk, monastic escritoire slot, slide wax vesta, and chemical light box.

G. Aldred, Primrose-street, spindle and spring for a looking glass.

Stock and Son, Birmingham, gas burner.

Sutherland and Murdoch, Dundee, valve-cock or trap.

T. B. R. Ball, Hill-street, Coventry, watch manufacturer, improved watch.

A. Symons and A. Soyer, Charing-cross, Soyer's modern housewife's kitchen apparatus, and Soyer's magic stove.—*Mechanics' Magazine.*

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—East Adairs Main 13 6—Hedley's Hartley 14—Holywell Main 15 6—Ord's Redheugh 14 6—Ravensworth West Hartley 15 6—Tanfield Moor 14 9—Wylam 15 3—Wall's-End Brown's Gas 13 6—Morrison 15 6—Riddell 15—Bell 16—Belmont 16 9—Braddyll 17 3—Hetton 17 9—Haswell 17 9—Lambton 17 3—Russell's Hetton 17 3—Stewart's 17 6—Kelloe 16 6—West Hartlepool 16 3—Adelaide Tees 16 9—Consett Tees 16 9—Tees 17 6—Alloa 13 6—Garnant Stone 22 6—Hartley 16.—Ships, 109; sold, 52.

WEDNESDAY.—Bate's West Hartley 15 6—Ruddle's West Hartley 15 9—Carr's Hartley 15 9—Davison's West Hartley 16—East Adair's Main 13 6—Hasting's Hartley 15 9—New Tanfield 13 9—North Percy Hartley 15 6—Ravensworth West Hartley 15—Tanfield Moor 14 9—Tanfield Moor Butes 13 6—Wylam 15 3—Wall's-End Bewicke and Co. 15 3—Brown's Gas 13 6—Elm Park 15—Gibson 14 6—Hedworth 14—Harton 15 6—Heaton 15 3—Hotspur 14 9—Morrison 15 3—Walker 15—Eden Main 16 3—Lambton Primrose 16 3—Bell 16—Haswell 17 9—Lambton 17 3—Stewart's 17 6—Caradoc 16—Hartlepool 17 6—Heugh Hall 15 9—South Hartlepool 16—Thornley 16 3—Seymour Tees 15 9—Alloa 13 6—Cowpen Hartley 15 9—Hartley 15 3.—Ships at market, 228; sold, 88.

FRIDAY.—Bate's West Hartley 15 6—Carr's Hartley 15 9—Chester Main 14 3—Adairs Main 13 6—Hasting's Hartley 15 6—Hedley's Hartley 15—New Tanfield 13 9—North Percy Hartley 15 6—Ravensworth's West Hartley 14 9—Tanfield Moor Bute's 13 6—Wylam 15—Wall's-End Brown's 14 6—Bensham 14 3—Brown's Gas 13 6—Hedley 15—Hilda 15—Hebburn 14—Morrison 15—South Killingworth 15 3—Walker 14 9—Eden Main 16—Belmont 16 3—Braddyll 17—Haswell 17 9—Jonassohn's 14 9—Lambton 17—Russell's Hetton 17—Stewart's 17—Kelloe 16 3—West Belmont 15 9—Seymour Tees 15 6—South Durham 15 3—Cowpen Hartley 15 9—Hartley 15.—Ships, 161; sold, 62.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 7 per Cent., 199½
3 per Cent. Reduced Ann., 92¼ ⅛
3 per Cent. Consols Ann., 92⅛ ⅛
3½ per Cent. Ann., 93⅛ ⅛
Long Annuities, 8⅛
India Stock, 10½ per Cent., —
3 per Cent. Consols for Acc. 92¼ ⅛
Exchcq. Bills, 1000*l.*, 1½d. 42 3 40 pm.
Belgian, 4½ per Cent., 86½
Dutch, 2½ per Cent., 53⅝ ½
Brazilian, 5 per Cent., 86½ 6
Chilian, 3 per Cent., 54
Mexican 5 per Cent., ex Cap., 28 7⅛
Russian, 5 per Cent., 109
Spanish, 5 per Cent., 18¼ ⅛
Ditto 3 per Cent., 34⅛

MINES.—The mining share market has been firm, although the business actually transacted may be considered somewhat limited.

Devon Great Consols have been done, and are still inquired for; the mine generally continues to maintain its most favourable appearances.

Tincroft shares have not been so much in request this week; although the bi-weekly report confirms the private letters received, showing the late improvements to be continuous, and placing the mine in a permanent position.

Lewis is represented in a prominent and highly satisfactory state.

Tamar Consols is progressing in a most profitable manner, although the returns are likely to be retarded this month, in consequence of the prevailing epidemic amongst the miners. East and South Tamar are also in a similar position, arising from the same cause. Business in each of these mines have been done during the week

Bedfords have also been inquired for; the profit arising from the sale of July ores amounts to about 400*l.* and the mine is stated to be in the same encouraging position as last reported.

Shares in the following mines have been in request during the week, but bargains have been limited, as the supply has not equalled the demand:—East Wheal Rose, South Frances, Trelawney, West Caradon, Cwm Erfin, Mary Ann, West Providence, &c.

Budnick Consols is reported to have improved; but we have received no official notice of the fact.

Shares in the following mines have changed hands since our last:—Devon Great Consols, Trelawny, South Frances, West Caradon, Trehane, Cwm Erfin, Mary Ann, Tamar Consols, South Tamar, Bedford United, East Tamar, South Molton, Tincroft, East Buller, West Providence, &c.

At the North Pool meeting, the division of profits for the months of May and June amounted to 2250*l.*, being 22*l.* 10s. per 100th share, leaving a balance of 1203*l.* 13s. 9d. The financial statement shows a profit of 3274*l* 18s. 8d. on the two months' working, and the mine is represented to be looking very well.

At the Cwm Erfin meeting, a balance of 522*l.* 10s. 9d. was found against the mine, having accumulated since the last account, held in December last. A call of 10s. per share was deemed necessary to pay off the liability. The report presented states the mine to be in a most encouraging position, which was fully confirmed by Capt. A. Francis, who was present, satisfactorily showing that the mine would be in a way of making a profit of 100*l.* per month, with an additional outlay of about 300*l.* for a small steam-engine. The operations were greatly retarded during the summer, in consequence of the scarcity of surface water, which impediment would be wholly remedied by the erection of the steam-engine.

At the South Wheal Josiah meeting, the financial statement showed a balance of 27*l.* 10s. 2d. in favour of mine (inclusive of 12*l.* 10s. unpaid calls); for facilitating the works, a call of 10s. per share was made. The agent's report states, that a very promising lode had been discovered in the adit level, and preparations making for more extensive operations.

At the East Wheal Josiah meeting, a call of 2s. 6d. per share was declared necessary.

At the Wheal Calstock meeting (which reached us too late to give this week), the accounts showed the mine cost to end of June, 2268*l.* 14s. 10d.; by cash received on calls, 2092*l.* 10s.—leaving balance of 171*l.* 4s. 10d.: to which add due various merchants' bills and costs for July, and deducting available assets and balance in hand, shows amount against the company of 768*l.* 13s. 8d.

At the adjourned meeting of the Asturian Mining Company, letters were presented from an influential party in Spain, proposing terms for re-establishing the company, and providing means for paying off all liabilities, and carrying on the operations vigorously. A committee was formed for the purpose of considering the proposition; and the result is to be communicated to the proprietary, at the meeting to be held on or about the 25th September.

The demand for foreign shares has not been active this week; still business has been done in United Mexican, St. John del Rey, Australian, Copiapo, Asturian, and Alten.

The St. John del Rey returns for the month of May have been received. Advices, dated 8th June, state that 22,383 oitavas produced 6583 tons of ore, yielding a profit of 3698*l.* 12s. 1d. for that month.

By letters from the Barossa Range Mines (South Australia), we find advice of the shipment of upwards of 35 tons of copper ore, of rich per centage, per the *Royal Archer*, and that the company's mines were progressing in a satisfactory manner.

Letters have been received from the Guadalcanal Mines up to the 20th of August; the water was in fork to the 72 fm. level, and the mine generally presents a very encouraging appearance.

By the *India Mail*, we learn that the metal market of the East is in a very flourishing position.

Shares sold during the Week.

BANKS.—Australasia, 24¼; London and Westminster, 24⅞—¾; Union of London, 10¼—⅜; Colonial, 6¾—½; London Joint-Stock, 16½; National Provincial of England, 35½; South Australia, 17⅛—18.

MISCELLANEOUS.—Auction Mart, 25; Australian Agricultural, 16; Upper Canada Bonds, 89; City Navigation, 90; Equitable Reversionary, 104; Hungerford Market, 47; Peninsular and Oriental Steam, 73½; Reversionary Interest Society, 90; Royal Mail Steam, 54; South Australian Company, 13; ditto new, 18; Van Diemen's Land, 1½.

HULL, THURSDAY.—The share market remains in a very depressed state, and prices are, in many instances, lower. York and North Midlands have been chiefly affected, and may be quoted at about 4*l.* per share below the price of last week.

DEPRECIATION IN VALUE OF RAILWAY SHARES.—A serious fall has taken place in some of the most important of our railway shares during the week—a convincing evidence that this description of property has not yet obtained that degree of confidence which some of the supporters of unlimited expense in carrying them out would lead us to expect. Great Westerns have fallen to 69½-70, being 6 less than our last week's quotations; North-Westerns to 123-1½, being a fall of 7; Midlands, from 63 to 60; and South Devons from 13 to 10. These reductions represent an awful depreciation of property somewhere.

RAILWAY CALLS.—The calls for the month of September, so far as they have at present been advertised, amount to 865,054*l.* against 2,625,936*l.* for the corresponding month of 1848, and 4,161,934*l.* for the same period of 1847. The total amount, therefore, this year is 16,654,215*l.*, against 30,378,995*l.* for the eight corresponding months of last year.

RAILWAY TRAFFIC RETURNS.

Names of Railways.	Length. 1849	1848	Present actual cost.	Price p. share	Div. 1848	Traffic Returns 1849	1848
Aberdeen	33	16	1,000,547	18 18½	—	£703	£689
Belfast and Ballymena	37½	37½	——	19½	5*	549	408
Birkenhead, Lancashire, & Chesh.	19	15	1,088,804	37	5†	1051	952
Bolton, Blackburn, & West Yorksh.	14	—	786,884	7	—	431	290
Bristol and Exeter	85¼	75¼	2,660,490	63	—	4499	—
Caledonian	154	141	4,865,135	20⅝ 20	3	6962	5561
Chester and Holyhead	84	59½	3,358,217	13	4	2668	2213
Dublin and Drogheda	35½	35½	774,875	29⅜	—	788	732
Dublin and Kingstown	7¾	7¾	395,915	—	—	920	1091
Dundee, Perth, & Aberdeen Junc.	47½	47½	544,554	19	6½	1228	1204
East Anglian (Lynn to Ely)	91½	55½	1,167,104	2½	—	848	567
East Lancashire	75½	24	2,628,519	15½	5	3868	1297
Eastern Counties and Norfolk	322	295	12,027,069	8½ 7⅝	—	15190	14378
Eastern Union	78	50½	1,712,703	13	—	1512	1387
Edinburgh and Glasgow	57½	52½	2,644,378	38½	6	3977	4001
Edinburgh and Northern	78	34	2,232,115	10½	2	2847	2205
Glasgow, Paisley, and Ayr	102½	74	2,874,330	46½	3	2960	3228
Glasgow, Paisley, & Greenock	23	23	848,328	16⅝	2	1206	1684
Gt. Northern & East Lincolnshire	126	—	4,255,171	7½	5†	2262	—
Gt. Southern & Western, Ireland	168½	110½	3,172,519	31⅝ ⅛	6†	3681	2785
Great Western	230½	206½	11,608,815	69½ 70	6½	16141	21297
Lancaster and Carlisle	70	70	1,476,102	52	4½	4310	4163
Lancashire and Yorkshire	206½	127½	9,218,450	82	5½	13876	12687
Liverpool, Crosby, & Southport	13	—	84,455	4	—	190	—
London and North Western	435	428	25,077,942	123 1⅛	7	45754	46355
London and Blackwall	5½	4	1,299,675	3⅝ ⅛	1-12	1020	1170
London, Brighton, & South Coast	170	162½	6,382,281	37½ ⅛	2½	12744	10184
London and South-Western	216½	194	7,510,689	33⅜	5½	11015	11058
Londonderry and Enniskillen	14½	14½	171,026	16	—	125	140
Manchester, Sheffield, & Lincolnsh.	157½	94½	6,048,679	33	5	5225	3105
Midland Company	471	423½	14,042,340	60	5½†	23441	24621
Midland Great Western (Irish)	50	36½	725,332	24½	4†	1082	806
Monklands	37	—	500,000	—	6	—	—
North British	109½	83	3,649,035	12¼	4½	3891	3153
Scottish Central	45½	—	1,364,228	22	7	1784	1260
Shrewsbury and Chester	48	23	969,618	12	5	1404	852
Shropshire Union	30	—	——	2½	—	304	—
South Devon	57½	29	1,909,232	9 10	5	1789	1670
South-Eastern	189½	165½	8,116,914	22⅜ ⅛	5½	13887	10652
Taff Vale	40	40	879,110	—	7½	2165	1607
Ulster	36	36	723,829	4⅝	—	839	763
West Cornwall	13	—	——	——	—	——	—
Whitehaven Junction	12	12	150,879	9⅛	3	228	205
York, Newcastle, & Berwick	269	242½	6,827,849	18	7	14391	10075
York and North Midland	290½	234	4,983,618	22½ ⅛	7	9766	10374

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1600	Abergwessin	8	⅝
1024	Alfred Consols	8½	9
1000	Antimony&Silver-Lead	5	—
1024	AshburtonUnited Mines	8½	12
1624	Balleswidden	9	18
128	Bainoon Consols	42½	50
10000	Banwen Iron Co.	6	6
1000	Barristown	5½	1½ 2
3650	Bawden	¼	⅛ ⅜
4000	Bedford	2⅜	3⅛ 3⅜
1280	Birch Tor Tin Mine	10½	6⅛ 6
8000	Blaenavon	50	10
5000	Blisland Consols	1	6
100	Botallack	182	25
120	Brewer	5	5
10000	British Iron, New, regis.	12	8
—	Ditto ditto, scrip	10	10
2400	Bryn-ar-ian	—	6
128	Budnick Consols	52½	10
1000	Callington	22	10
1000	Camborne Consols	6	6 6½
20000	Cameron's Steam Coal	7	1
256	Caradon Copper Mine	9½	1½
256	Caradon Mines	22½	10
256	Caradon United	24	5 8
256	Caradon Wh. Hooper	21	4⅛
1000	Carn Brea	15	105
3000	Carthew Consols	1½	6
114	Charlestown	220	—
500	Comblawn	5½	4½
128	Comfort	45	50 60
256	Condurrow	20	70 75
2560	Cook's Kitchen	14	2½ 3
1000	Coombe Valley Quarry	3½	4½
1000	Copper Bottom	1½	6½
900	Court Grange	5	10
212	Craddock Moor	23½	5
128	Creeg Braws	120	30
500	Cubert Mine	12½	—
1000	Cwm Erfin	3½	2½ 3 3½
300	D.Prior&Buckfastleigh	—	—
7100	Derwent	8½	5
845	Devon&CourtenayCon.	7⅝	2 3
1024	Devon Great Consols	1	200
1000	Dharode	2	5
182	Dolcoath	80	15
2560	Drake Walls	5½	3 4
10000	Durham County Coal	45	5
3000	Dyfngwm	10	10 12
512	East Alvenney	5½	6
2500	East Birch Tor	3	2
112	East Caradon	47	47
2048	East Crowndale	6½	4
512	East Combe Silver-Lead	6½	6½
128	East Pool	15	70
9000	East Tamar Consols	¾	⅝ ¾
94	East Wheal Crofty	125	65 70
1024	East Wheal Fortune	2	3
128	East Wheal Rose	50	600 650
—	East of Scotland Iron Co.	5	1⅛
123	East Wheal Seton	14	10
1280	Esgair Llee	1½	4 4½
248	Exmoor Wh. Eliza	6	6
494	Fowey Consols	40	45
1024	Freiod Llwydd Mines	1½	3½
4000	Gen. Mining Co. for Irel.	1½	1½
256	Gonamena	44½	16
128	Goonvrea	4	2
256	Grambler & St. Aubyn	80	8 9
100	Great Consols	1000	180
512	Gt. Wh. Rough Tor Con.	18½	18 20
6000	Growa Slate Company	5	5
6000	Heigneton Down Con.	1⅛	⅛ 1
256	Herodsfoot	27	14
10000	Hibernian	12½	1⅜
239	Hobb's Hill	6	1½
1000	Holmbush	22	8 10
1024	Kingsett and Bedford	1⅛	3½ 4
787	Kirkcudbrightshire	8½	2½
2048	Lamberoose Wh. Maria	8	2½
252	Lanarth Consols	—	4
128	Leisnt Consols	90	40
160	Levant	—	200
1000	Lewis	17	9½ 10
1000	Llwynmaiees	8	5½
3600	Llynvi Iron	50	50
253	Lostwithiel Consols	23	10
6000	Marke Valley	10	⅝ 1
5000	Mendip Hills	3½	1⅜ 1½
128	Metha	34	—
20000	Mining Co. of Ireland	7	4
1280	Nant-y-cria	5	5
256	New East Crowndale	3½	2½
100	North Pool	45	470 500
140	North Roskear	5½	140
262	North Wh. Leisure	1½	2
256	North Wheal Basset	10	10 12
15000	Northern Coal Co.	23	2
128	Par Consols	55⅝	650
8000	Pennant & Craigwen	2½	2
1024	Penzance Consols	22s 3d	3
512	Plymouth Wh. Yeoland	6½	6
200	Polsaith Consols	5½	4½
2500	Rhoswiddol&Bacheiddon	10	10
10000	Rhymney Iron	50	13
10000	Ditto New	7	6½
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12
2048	Runnaford Coombe Tin	⅜	9
9000	South Tamar	⅜	1⅝ ⅞
128	South Caradon	5	350

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
1100	South Dolcoath	5	⅛ 10
256	Sth. Friendsh. Wh. Ann	30	28 3
256	South Molton	5	14⅛ 15
256	South Tolgus	16	40 45
256	South Treluwny	28⅛	5
3000	South Wales Mining Co.	¼	1 1⅛
128	South Wheal Basset	20⅛	365
124	South Wh. Frances	160	255
256	South Wh. Josiah	1	15
1000	South Wh. Maria	2½	1⅛
10000	Southern&Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	—
94	St. Ives Consols	—	60
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	17½
9600	Tamar Consols	3	7⅛ 8
1024	Tavy Consols	6½	1½
6000	Tincroft	1	12⅛
58	Tokenbury	170	10
256	Tregorden	3½	5 5½
256	Trehane	1½	25
5000	Treleigh Consols	6	3 3½
2000	Trenance	3	—
96	Tresavean	10	95
120	Trethellan	5	15 16
120	Trevisksy and Barrier	130	100
288	Treveau	1½	1
200	United Mines	50	150
256	Wellington Mines	25	35 38
128	West Buller	10	275
256	West Caradon	20	117½ 20
512	West Fowey Consols	40	12
256	West Providence	9	25
200	West Seton	45	120
120	West Trethellan	5	5
256	West United Hills	—	4½
512	West Wheal Frances	1⅜	2
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	12	⅜ 1 ⅛
256	West Wheal Tolgus	80	10
256	West Wheal Treasury	19	4½ 5
1024	Whiddon Mines	4⅜	2
5200	Wicklow Copper	5	8½ ¾
107	Wheal Adams	79	80
1000	Wheal Agar	—	6
256	Wheal Albert	10	1
240	Wheal Anderton	25½	15
128	Wheal Ann	—	50½
512	Wheal Anna Maria	7	8
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	15
256	Wheal Benny	14½	2
1024	Wheal Bray	10	10
256	Wheal Bincowe	21	12
232½	Wheal Calstock	9	20 25
268	Wheal Courtenay	12½	—
256	Wheal Fortescue	15	—
388	Wheal Franco	27	11 12
128	Wheal Harriet	45	—
100	Wheal Henry	—	25
1024	Wheal Lawrence	2½	2½
112	Wheal Margaret	79	225
512	Wheal Mary Ann	5	26 27
208	Wheal Mary Consols	60½	8
360	Wheal Oak	6	5
3000	Wheal Penhale	—	6
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	3
198	Wheal Seton	214	250
180	Wheal Sisters	35⅜	5
494	Wheal Sophia	4½	5
128	Wheal Spearne	10	68 70
128	Wheal St. Ann	30	35
550	Wheal Trescoll	9	10 15
260	Wheal Trelawny	7⅝	72½ 5
256	Wh. Tremaine(St. Ervan)	9½	2½
1024	Wheal Tremayne	9⅝	3 4
92	Wheal Tryphena	140	100
1000	Wheal Vincent	2⅜	7
256	Wheal Vlow (Perrans.)	⅜	⅜
184	Wheal Vyvyan	—	60
250	Wheal Williams	28⅜	8

FOREIGN MINES.

5000	Alten Mining Company	14½	2½
15000	Asturian Mining Co.	15	2½
20000	Australian	3	5½
10000	Anglo-Mexican Co.	100	⅛
12374	Ditto Subscription	25	1½
6000	Barossa Range	1⅜	1⅝ ⅜
3000	Bolanos	150	1
2000	Ditto Scrip	1⅞	1½
10000	Brazilian Imperial	23	3
12000	Cobre Copper Co.	40	23
10000	Copiapo Mining Co.	14	4 4½
20000	General Mining Ass'n.	20	10½
4000	Guadalcanal	5	6½
5000	Kinzigthal Mining Ass.	2	1½
5051	Mexican Company	59½	—
2000	Mexican & South Amer.	8	1 1½
5000	National Brazilian	30	3½ ⅛
104000	N. Brit. Australasian	1	7s 3d
7000	Royal Santiago	10	5½
11000	St. John del Rey	15	8½ 9
43174	United Mexican ...Av.	28¼	3⅛

*** *We should feel greatly obliged by agents, or others interested, furnishing us with such corrections for our Share List as we may not have received through our usual channels of information—our object being, to present as accurate a list of prices as can be obtained—to procure which, we solicit the aid of correspondents in general.*

LATEST CURRENT PRICES OF METALS.

LONDON, AUGUST 31, 1849.

ENGLISH IRON. *a* — *per ton.*

Bar, bolt, & square, London	£6 0 0
Nail rods	7 0 0
Hoops	8 0 0
Sheets (singles)	8 10 0
Bars, at Cardiff & Newport	5 5 0
Refined metal, Wales*	3 7 6-3 10
Do. anthracite*	3 15 0
Pigs in Wales	3 5 0—4
Do. do. forge	2 15 0—3
Do., No. 1, Clyde....*net cash*	2 4 6-2 6
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	3 15 0
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0
Stirling's Patent Toughened Pigs in Glasgow	2 14 0
Ditto in Wales	3 15—4 10
Staffordshire bars, at the works	6 10
Pigs, in Staffordshire	2 15—3 0
Rails	5 5
Chairs	4 0 0

FOREIGN IRON. *b*

Swedish	11 10 0—12
CCND	——
PSI	——
Gourieff	——
Archangel	——

FOREIGN STEEL. *c*

Swedish keg	14 10 0
Ditto faggot	15 0 0

ENGLISH COPPER. *d*

Sheets, sheathing, & bolts, *p. lb.*	0 0 9
Tough cake *per ton*	79 10 0
Tile	£76 10 0
Old copper *e* *per lb.*	8*d*

FOREIGN COPPER. *f*

South American, in bond	——

ENGLISH LEAD. *g*

Pig *per ton*	15 15 0
Sheet	16 15 0
Red lead	18 0 0
White ditto	22 0 0
Patent shot	19 15 0

FOREIGN LEAD. *h*

Spanish, in bond	15 0—15 5
American ditto	——

ENGLISH TIN. *i*

Block *per cwt.*	3 13 0
Bar	3 14 0
Refined	3 19 0

FOREIGN TIN *k*

Banca, in bond	3 11 0
Straits	3 9 0
Peruvian (6 mo 2½ p. ct. dis.)	——

TIN-PLATES. *l*

IC Coke *per box*	1 7—1 8
IC Charcoal	1 10—1 11
IX ditto	1 17 0

SPELTER. *m*

Plates, warehoused *per ton*	15 0 0
Ditto, to arrive	15 10 0

ZINC. *n*

English sheet *per ton*	21 0 0
QUICKSILVER *o* *per lb.*	0 3 0

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis; *e*, 6 months, or 2½ per cent. dis.; *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.

* Cold-blast, free on board in Wales.

REMARKS.—We continue to experience a fair demand for all descriptions of iron, and, with the exception of Scotch pig-iron, the market rules firm at last week's prices. The accounts from the United States are again of a more favourable character, and a good fall trade is now fully relied upon.—Welsh bars we quote firm at 5*l.* 5s. per ton, free on board at the port.—Scotch pig-iron is to be had at 44s. 6d. for mixed Nos., and 45s. for all No. 1, free on board at Glasgow, with rather a dull market.—At private sale this day, 739 slabs Straits tin were bought in at 68s.

GLASGOW, AUGUST 31.—This has been a very dull week in pig iron. Buyers are very scarce, and holders are disposed to accept lower prices. We quote the price at 44s. to 44s. 6d. for mixed Nos.—cash.

LIVERPOOL, AUGUST 31.—We have no change to report in the state of our market since last Saturday. In all descriptions of iron there has been a good extent of business done, at the prices current this day week. The accounts from the United States not being quite so favourable may account for the check that has been given to the upward tendency of the market.

BOMBAY, JULY 25.—Considerable sales in copper and iron have been made during the month, and the demand for all kinds is active. A sale of spelter has taken place at 11 r. per cwt., at which holders are, however, unwilling to sell. Of tin plates the market is bare. Of read lead 200 cwts. have been sold, at 15 r. per cwt. Of white lead 100 cwts. have been sold, at 12½ r. per cwt.

THE IRON TRADE.

We have much pleasure in being enabled to state that the strike of the colliers in the mining districts of South Staffordshire, may be now considered as virtually at an end—a large number of the men having resumed work at the old prices, which no doubt will, in a week or two, become general throughout the district. We rejoice at this termination of the strike—not only as putting an end to a system, injurious alike to masters and men, but as indicating a more healthy and prosperous condition of the trade; for to such an improved state of things is mainly attributable the present amicable termination of the differences between the manufacturers and their workmen.

There is no disputing the fact, that at the time notice was given of a reduction in wages, the prospects of the trade were of the most gloomy description; but events have since occurred to improve materially the state of the iron market, which had been suffering under undue depression. Amongst other causes which have operated in producing the present change, is the general cessation of hostilities abroad, and the arrival of important orders from the continent and the United States.

The make of iron has also been greatly reduced in Wales, more particularly in the neighbourhood of Merthyr, owing to the ravages of cholera, and the panic which has seized the workmen, numbers of whom have left off work, and abandoned the district altogether. A large number of furnaces have in consequence been blown out, and the Welsh trade has, we understand, been so crippled, that several large orders from that quarter have found their way into South Staffordshire, where stocks had previously been reduced to the lowest point. We are disposed to regard the present improvement as permanent, and that no further decline in price need be apprehended.—*Birmingham Journal.*

OPENING OF THE ELECTRIC TELEGRAPH AT THE GENERAL POST-OFFICE.—All the wires having been laid down from the chief Electric Telegraph-office, Lothbury, to the Post-office, St. Martin's-le-Grand, the *employés* commenced yesterday, for the first time, sending off expresses from that establishment. The advantage to the Post-office of this facility of communication will be important, as the Postmaster-General will be made acquainted with the arrivals and departures of all the foreign and colonial mail packets immediately, and also for the transmission of orders to the various parts of the country connected with that department.

ABERDEEN RAILWAY.—It has been stated that this line would be opened throughout in the course of this month; but, from a personal inspection, we can positively state that such an event will be impossible for some time longer.

LEAD ORES

Sold at Liskeard, on the 23d August.

Mines.	Tons.	Price.	Purchasers.
Wheal Trelawny	108	£16 16 6	Tamar Smelting Co.

Sold at the same place, on the 27th August.

Wheal Mary Ann	65	£17 9 6	Sims, Willyams, & Co.

BLACK TIN

Mines.	Tons.	Price per Ton.	Purchasers.
Great Polgooth	10	£41 10 0	Williams and Co.
ditto	10	41 10 0	Calenick Smelting Co.
ditto	10	41 10 0	Daubuz.
ditto	10	41 10 0	Biscoe Co. and Enthoven.
ditto	2	38 0 0	Bissoe Company.

COPPER ORES.

Sampled August 15, and Sold at Andrew's Hotel, Redruth, August 30, 1849.

Mines.	Tons.	Price.
United Mines	110	£1 12 0
ditto	105	3 16 0
ditto	104	3 1 6
ditto	95	3 3 6
ditto	94	3 9 6
ditto	91	3 2 6
ditto	87	5 5 6
ditto	86	3 16 6
ditto	85	3 0 6
ditto	84	2 18 0
ditto	82	3 10 0
ditto	80	5 7 6
ditto	78	2 17 6
ditto	77	3 6 0
ditto	76	3 3 6
ditto	75	5 5 6
ditto	63	4 11 6
ditto	54	9 12 6
ditto	53	5 0 6
Par Consols	81	2 5 0
ditto	72	6 12 6
ditto	69	4 14 6
ditto	62	6 18 0
Par Consols	61	£2 7 0
ditto	60	2 4 0
ditto	50	4 16 0
Wh. Comfort	91	1 10 6
ditto	75	1 8 6
ditto	71	2 3 0
ditto	61	3 18 0
ditto	56	2 13 6
South Caradon	76	8 14 0
ditto	66	6 17 6
ditto	65	5 9 6
ditto	44	5 1 6
ditto	20	4 2 0
Treleigh Consols	92	3 15 6
ditto	29	9 3 6
ditto	14	2 9 0
Tresavean	57	4 17 0
ditto	55	2 7 6
ditto	18	1 17 6
West Trethellan	40	3 18 6
North Downs	10	3 8 6
Wh. Plenty	3	5 9 0

TOTAL PRODUCE.

United Mines	1579	£5828	12 6	Tresavean	130	£440	16 6
Par Consols	455	1912	18 6	West Trethellan	40	157	0 0
Wh. Comfort	354	786	0 0	North Downs	10	34	5 0
South Caradon	271	1776	2 6	Wh. Plenty	3	16	7 0
Treleigh Consols	135	647	13 6				

Average Standard £108 2 0 | Average Produce 6½
Average Price per ton £3 18 0
Quantity of Ore 2977 tons | Quantity of Fine Copper, 183 tons 0 cwts.
Amount of Money £11,599 15 6
LAST SALE.—Average Standard £ 94 1 0.—Average Produce 9⅝
Standard of corresponding sale last month, 100*l.* 0s.—Produce, 7½.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	457	£1976 11 0
Vivian and Sons	982	3610 16 0
Freeman and Co.	201	787 17 0
Pascoe Grenfell and Sons	548	1801 12 6
Crown Copper Co.	33	226 17 6
Sims, Willyams, and Co.	67	444 13 0
Williams, Foster, and Co.	453	1635 19 0
Schneider and Co.	286	1115 9 6
Total tons	2977	£11,599 15 6

Copper ores for sale on Thursday next, at White's Hotel, Pool.—Mines and Parcels.—North Roskear 900—Consolidated Mines 691—North Pool 550—Tincroft 471—Wheal Seton 453—Fowey Consols 218—South Wheal Frances 213—South Wheal Basset 175—South Roskear 104—Wheal Vyvyan 26.—Total, 3801 tons.

Copper ores for sale on Thursday week at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 904—Tywarnhayle 509—Par Consols 257—Levant 217—West Wheal Treasury 198—Wheal Tremayne 185—Wheal Agar 130—West Wheal Buller 104—Charlestown United Mines 79—Creeg Braws 53—St. Aubyn and Grylls 14—Godolphin Consols 7—Wheal Pleasant 6—North Wheal Abraham 5—West Wheal Rodney 4—Wheal Neptune 2—Wheal Fortune 2—East Crinnis 1—Total 2677 tons.

COPPER ORES

At SWANSEA, for sale Sept. 6.—Cobre 62, ditto 56, ditto 52, ditto 67, ditto 66, ditto 58, ditto 104, ditto 55, ditto 38.—Cuba 110, ditto

CORNISH STEAM-ENGINES.

[Abstract from Browne's *Cornish Engine Reporter*, from July 20 to August 20, 1849.]

PUMPING-ENGINES.	
Number reported	35
Average load per square inch on the piston, in lbs.	13·1
Average number of strokes per minute	4·9
Gallons of water drawn per minute	5614
Average duty of 22 engines—being million lbs. lifted 1 foot high, by the consumption of 1 cwt. of coals	61·9
Actual horse-power employed per minute	991·6
Average consumption of coals per horse-power per hour, in lbs.	3·9
ROTARY-ENGINES—WHIMS.	
Number reported	20
Number of kibbles drawn	73,242
Average depth of drawing, in fathoms	130·0
Average number of horse-whim kibbles drawn the average depth, by consuming 1 cwt. of coals	57·8
Average duty of 15 engines, as above	17·5
STAMPS.	
Number reported	7
Average number of strokes per minute	13·9
Average duty of 6 engines, as above	39·4
Actual horse-power employed per minute	144·7
PUMPING-ENGINES DOING HIGHEST DUTY.	
Fowey Consols—80-inch single	*Millions* 98·2
Par Consols—80-inch single	95·2
Great Polgooth—80-inch single	84·2
Par Consols—72 and 13-inch Sims's combined	82·4
Trelawny—50-inch single	80·4
Callington—50-inch single	80·3
WHIM-ENGINES.	
Par Consols—24 & 13-inch Sims's combined	*Millions* 31·1
Fowey Consols—22-inch double	30·0
Fowey Consols—22-inch double	26·3
Par Consols—24-inch single	19·8
STAMPING-ENGINES.	
Great Polgooth—35-inch double	*Millions* 53·4
Lewis—32 & 28-inch Sims's combined	49·9
Tamar—30-inch single	45·6
South Caradon—26-inch single	40·8

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

PREVENTION OF SMOKE.—We have received a communication from Mr. Andrew Smith, in reply to Mr. Dircks's letter, in the *Mining Journal* of the 18th August, in which he still assures us that Mr. Dircks's memory must be very treacherous, that he did fully explain the plan adopted by him at his furnace at Millwall, and encloses a certificate from a Mr. M'Donald, the engine-keeper, who states that, three years since, he saw Mr. Dircks examine the construction of the furnace, in company with Mr. Smith, Mr. John Field, and Mr. Thomas M'Guren. We regret to see this discussion prolonged, as it cannot possibly tend to any good, and particularly as the antagonists are two old friends. As before stated we decline giving any opinion as to the infringement, but think the subject had better here drop.

"Anglo-Celt," on Mining in Ireland, shall appear in our next Journal.

"A Mechanic" (Hatton-garden).—The method of blacking leather in Germany is thus performed:—Take 2 lbs. of the bark of elder, and the same quantity of the filings of oxide of iron (rust); steep them in 2 gallons of river water, and put them in an earthen vessel, or cask, closely stopped. After it has thus stood two months, put to the liquid, when well pressed out, 1 lb. of powdered nut galls, and a ¼ lb. of copperas, and then, after stirring it over a good fire, press out the liquid, with which the leather is to be three or four times brushed over, when it becomes a most excellent and durable black.

"Miner" (Redruth).—The Alten Company's mines were first worked in 1654 by the Danes, who, after driving a lode a few fathoms, abandoned them. The present mines date their commencement from the year 1826. Several Cornish miners and mechanics were then employed, but, within the last 10 years, the superintendents have only been engaged in England, the labourers being entirely natives and Finlanders.

"J. K." (Newington).—Millington's *Elements of Civil Engineering* is a good work; if a beginner, *Rudiments of Engineering*: they are to be had of Mr. John Weale, bookseller, High Holborn. There are openings in America for assistant engineers—much would, however, depend upon your qualifications.

"A. P." (Cheapside).—The purser of the mine will, no doubt, pay it through their bankers to their agents in London. Messrs. Bolithos, of Fenchurch-street, are engaged in the mine—probably the dividend could be received through them.

"R. W." (Cheapside).—We gave an engraving and description of Messrs. M'Kean, Perkes, and Co.'s novel Suspension Bridge, at Chester, in our Journal of the 4th August.

"A Miner" (St. Austell).—The last meeting of the South Australian Mining Association (Burra Burra) shareholders was held at Adelaide on the 18th April; the directors' report and accounts presented thereat appeared in our Journal of the 4th August, and some remarks thereon in our last Journal.

"A Subscriber and Constant Reader."—The filter alluded to by our correspondent is, we believe, Truman's patent, and, if so, generally composed of Ransome's patent artificial stone. We are not aware of the place of manufacture or sale, but have some recollection of seeing them exhibited in a shop window in the neighbourhood of Charing-cross. Probably some of our readers can give the desired information. We cannot give an opinion as to their merits.

"E. H." (Kent-road).—There is no "Mining School" in England. Consult Budge's *Miners' Guide*, published by Longman; Mitchell's *Practical Assayer*, published by Bailliére, Regent-street; and a series of papers, published in our Journal, on the "Metallurgical Treatment of Ores," also by Mr. Mitchell, the practical assayer, whose advertisement appears in another column.

"An Enquirer" (Perth).—Spain has been known from the earliest period to be rich in the precious metals. According to Pliny, silver was found there in great quantities, and of surpassing quality. In his *Hist. Naturæ*, he says, "Argentum reperitur omnibus fere provinciis, sed in Hispania pulcherrimum." It is said that the single mine of Beibel yielded Hannibal 300 lbs. per diem; and we learn, that after Spain had been entirely reduced to subjection by the Romans, they drew from it upwards of 110,000 lbs. of silver in nine years, or at the rate of about 12,400 lbs. annually.

"Hibernicus" (Liverpool).—The northern parts of Munster are included within the limits of the great plain of floetz limestone, which constitutes the central formation of Ireland. The southern parts are mostly of the clayslate and sandstone formation, the former being more developed in the more level parts, the latter in the mountain. Bog is abundant, and very generally distributed, although the province lies without the great central band, which embraces most of the soil of this description. Coal is found in large quantities in the interior, but its use is limited. There are two fields of this mineral—one, the larger, in the centre of Cork county, the other in Tipperary, where a branch of the great Leinster coal field stretches into the province. In both places, the mineral is of the carbonaceous or stone-coal species, the slate glantz coal of Werner.

ABERGWESSIN MINES.—*Errata.*—"SIR: On a perusal of your account of the meeting asto the Abergwessin Mines, in your Journal of the 25th Aug., you inadvertently state that Capt. Matthew Francis estimates the cost of the machinery at 4000*l.*; while upon reference to his original report, I find it to be only one-fourth that sum, or 1000*l*; and in a paragraph adverting to this meeting, you state that the additional outlay required will be 6000*l.*, which is double the sum mentioned by Capt. Francis in his report. I am sure you will, for the satisfaction of the shareholders, and the other parties interested, correct these errors in your next Journal.—PHILIP VAUGHAN: *Brecon, August 27.*"

LEAD MINES.—"A Lead Miner" says—"Lead mines are few and far between. Let all the proprietors of lead mines agree. Enter into resolutions, and call periodical meetings, such as the smelters do. What then will be the result?—Your mines, instead of being starved out, will pay you what you deserve."

"A Student" (Durham).—Arsenic acid is a white substance, of a sour taste; it is anhydrous, deliquescent, and uncrystallizable. Its sp. grav. is 3·4. It requires for solution six parts of cold and two of boiling water. Its solution reddens vegetable blues, tastes acid and metallic, and is a virulent poison. When water is poured upon it, a part only is immediately dissolved, and another portion, as is the case with phosphoric acid, remains undissolved. After a time, upon agitating the solution, the whole is taken up. Heated to bright redness, it evolves oxygen, and is converted into arsenious acid. If dry arsenic acid be exposed to air, so as gradually to deliquesce, it sometimes forms crystals, which are extremely soluable, and have been considered to be probably hydrated acid. Arsenic acid gives a white precipitate with lime water, and a peculiar reddish brown with nitrate of silver. It yields a yellow deposit of a sulphuret of arsenic, when its solution is subjected to the action of a current of sulphuretted hydrogen gas. Arsenic acid consists, according to Berzelius, of—Arsenic 65·283, oxygen 34·717. Arseniates are produced by the union of this acid with the metallic oxides, and many which are insoluable may be formed by adding arseniate of potassa to their respective solutions. They are soluable in dilute nitric acid, and in such other acids as do not form insoluable compounds with their bases, and ammonia precipitates them from these solutions. They are readily decomposed by charcoal at a red heat, but many of them, when heated alone, are unchanged, even at a higher temperature. They are decomposed when boiled in solutions of the fixed alkaline carbonates. The soluble arseniates generally give a white precipitate with lime water; they are not immediately precipitated by solution of sulphuretted hydrogen. Protosulphate of iron gives a white precipitate, or yellowish, if arsenious acid be at the same time present. With acetate of lead, and acetate of zinc, they also give white precipitates.

"D. T." (Bristol).—The Geological Map of England, published by the Royal Geological Society of London, is only to be had at their rooms, Somerset House, London. The geological maps of Cornwall and Devon, by Sir Henry de la Beche, form part of the Ordnance Survey, and are to be had in sheets of Messrs. Longman and Co.

"A Tyro" (Woolwich).—The first stone of the Plymouth Breakwater was laid on the 12th August, 1812. The limestone employed in its construction was obtained from a quarry purchased of the Duke of Bedford.

"T. M." (Knightsbridge).—We are not aware whether the company is yet in existence, or whether it was ever properly formed; nor do we know if any offices have been taken since the premises were vacated in the Adelphi. Such transactions, no doubt, throw great disrepute on mining speculations. In all purchases, whether in new or old concerns, our advice is invariably to consult some respectable sharebroker. The addresses of several will be found on referring to our advertising columns.

"F. M. J." (Freiberg).—In reverberatory furnaces for copper smelting, Newcastle bricks are sufficiently durable for lining the stacks. Stourbridge bricks are preferable for the sides and fire-place. In some cases, especially if a good bricklayer is employed, Stourbridge clay may be used to advantage in the sides. A furnace, 12 feet by 8 feet, should smelt about a ton to a charge; if the ore is fusible, from five to six charges should be smelted in the 24 hours. The furnaces should not be too overworked, occasionally allowing them to cool for a few hours will do them no injury. The sand, before being smelted as a bottom, should be well calcined, and a charge of slags first smelted, in order to temper it.

*** The numerous disappointments in procuring back Numbers during the past year induces us to suggest, that subscribers should be careful in filing, or otherwise preserving, their papers; and where extra copies are required, that they should be applied for as early as possible.

*** We should feel obliged to all purser, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal.

*** It is particularly requested that all communications may be addressed—

TO THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, SEPTEMBER 1, 1849.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

In our remarks, last week, on the inquest held upon the unfortunate victims at the Lettly Shenkin Colliery, Aberdare, we noticed the fact of Mr. BLACKWELL, one of the inspectors appointed by Government being present, and taking an active, and truly interested and energetic, part in the proceedings. Little as we expected from Government appointments in this matter, we have some hopes that these gentlemen, Messrs. PHILLIPS and BLACKWELL, will bestir themselves, and, although unarmed with any legal powers, we think they may, by close investigation and perseverance, pioneer the way, and be at least the precursors of much good to be effected, when a judicious and systematic law of inspection shall have been established. While Mr. BLACKWELL is making himself acquainted with the peculiarities of the South Wales coal basin, Mr. PHILLIPS is gaining golden opinions in the north. At a meeting of colliery viewers, held in the Assembly Rooms, Newcastle, a few days since, NICHOLAS WOOD, Esq., in the chair, and present Messrs. W. ARMSTRONG, jun., JOHN ROBSON, THOMAS JOHN TAYLOR, EDWARD POTTER, THOMAS FORSTER, JOHN JOHNSON, J. H. JOBLING, M. B. ROBSON, G. ELLIOTT, RICHARD HECKELLS, EDWARD BOYD, THOMAS CRAWFORD, jun., THOMAS TAYLOR, THOMAS HALL, WILLIAM CLARK, GEORGE CLARK, J. JOICEY, JOHN JOICEY, G. HUNTER, THOMAS CROUDACE, JOHN TAYLOR, GEORGE GREENWELL, JOHN EASTON, WILLIAM OLIVER, WILLIAM HUNTER, M. REID, WILLIAM BARKUS, and MATTHEW LIDDELL,—Prof. PHILLIPS, having been introduced by the chairman, addressed the meeting on the objects of the Government commission, and the means of accomplishment, when it was proposed by THOMAS JOHN TAYLOR, Esq., and seconded by T. FORSTER, Esq.,—

"That though great precautions are now used to prevent accidents, and though the collieries of Durham and Northumberland are well known to be conducted on approved principles, especially as regards ventilation, yet this meeting is of opinion that Professor PHILLIPS, under the explained circumstances of his appointment, ought to be furnished with ample facilities for carrying out his proposed inspection of the Durham and Northumberland collieries; and this meeting accordingly pledges themselves, as well collectively as individually, to recommend to their employers to assist in furthering the objects of the commission, and in communicating to the professor such information as may be required by him, with a view to the desirable object of diminishing the number of accidents occurring in mines, so far as the same is capable of being effected, consistently with the nature of the miner's employment. That in furtherance of the views of Prof. PHILLIPS, as explained to this meeting, the following selected collieries are submitted for inspection:—

"1.—*Collieries yielding Fire-Damp.*

"WEAR DISTRICT.—Hetton, Haswell, and Murton—furnace ventilation.
"TYNE DISTRICT.—Tyne Main, Bigge's Pit (Willington), Hebburn, and Wallsend—furnace ventilation.
"TYNE AND WEAR.—Seaton Delaval and Belmont—ventilated by steam jet.

"2.—*Collieries yielding Strike, or Carbonic Acid Gas.*

"TYNE DISTRICT.—Mickley and East Holywell.
"HARTLEPOOL.—Heugh Hall and Thornley.
"TEES.—Black Boy and Eldon.
"MEDOMSLEY.—Marley Hill, Shield Row, and Derwent Main."

Prof. PHILLIPS having then arranged certain days for the inspection of the first-named collieries, the thanks of the meeting were voted to him; and, after a vote of thanks to the chairman, the meeting was brought to a close. When we call to mind how, a few years since, the most determined opposition was made by all connected with the coal districts to any inspection, or interference, on the part of Government, it is highly gratifying to find such unanimity in favour of co-operating with the inspector, and rendering him every assistance, amongst the highly-intelligent viewers of Northumberland and Durham. It clearly shows that conviction has reached their mind that some more active agency is required than has hitherto been at work to keep alive those necessary precautionary measures which, properly enforced, so greatly reduce the danger to human life; while the neglect of which render the working of the mines a game of chance, and the life of the collier as liable to extinction as the flickering flame of the candle he carries. Want of space compels us to close our remarks for the present; but our readers may be assured we shall return to the subject. In the meantime, we strongly recommend the perusal of a communication from Mr. JONES, of Blaenavon, in another column, as evincing a practical knowledge of the subject, and which we think remarkable for the sound reasoning and humane, yet straightforward and manly, sentiments it contains. We would also call attention to an ingenious suggestion, by Mr. G. LITTLE, for ascertaining the presence of either carbonic acid or carburetted hydrogen, by the employment of the galvanometer.

After the distribution of the prizes at the Society of Arts, in June last, it was announced by Prince ALBERT, that the Council hoped to be able to organize a great national exhibition of machinery, works of art, and manufactures, in the summer of 1851, and we are informed, on the best authority, that his Royal Highness, the President of the Society, has been indefatigable in his exertions to devise the best means of carrying out this plan in a truly noble manner, and which shall render such an exhibition in every way worthy of this great manufacturing and engineering country. It has long been a matter of reproach, that we are far behind our continental neighbours in those public schools and exhibitions, which so highly tend to develope mechanical genius and awaken the spirit of invention and improvement among the inhabitants of a country. An exhibition, similar to the one proposed here, is now open in Berlin, the exhibitors to which are confined to the town; another at Paris, where the buildings and inclosures cover 10 acres of ground, and which is open to the whole of France; but the truly great exposition, proposed to take place in this country in 1851, is to be unconfined to name or nation, but to embrace, for the first time in the annals of such institutions, the products, machinery, and manufactures of all countries, and be, in the fullest extent of the term, universal. It is proposed to give money prizes of an amount worth aiming at, to be awarded by judges placed so far above interested motives, as to incite the utmost confidence.

It may be in the recollection of our scientific readers, that a somewhat similar exhibition was proposed by Mr. FRANCIS WHISHAW, and other gentlemen, to the Society of Arts in 1845, and the managing committee came to certain resolutions on the subject, expressive of their thorough approbation of the plan. They considered that the experience of foreign countries has proved that great national advantages have been derived from the stimulus given to industrial skill, by bringing the manufactures of different establishments into competition with each other, by presenting honorary rewards to those who have excelled in each department—cheapness of production and excellence of material, both in execution and durability, being assumed as the *criteria* of superiority. That by carrying out a similar principle in England, founded on the experience of the past, but with more extensive views, still greater benefits may be derived; and while encouragement and reputation will be conferred on the honest, meritorious, and skillful producer, a successful effort may be made to repress and expose, by contrast, those spurious and inferior articles which have of late years injured our foreign trade, and filled the home market with cheap but worthless productions. It was then proposed to raise a fund of 100,000*l.*, expressly for the purpose of establishing biennial exhibitions; the erection of library, museum, and reading-room; and establishment of the prizes: but, notwithstanding the exertions of Mr. WHISHAW, who, in connection with the proposal, visited nearly all the manufacturers in the midland and southern counties, and of many gentlemen, who warmly espoused the cause, the final establishment of the institution was never carried out. Such an object, on a scale commensurate with the magnitude of the interests involved, is a most legitimate one for the exercise of the highest talent and influence which the Society of Arts possesses; and we sincerely trust now PRINCE ALBERT has taken the matter up with spirit, that he will be well supported in so good a cause, and that we shall see this national exhibition carried out in 1851 in the manner proposed, and that it will produce results worthy of the genius of the country in which it emanates. The following brilliant and animated picture of such an exhibition was given in one of the daily journals at the time of the previous discussion of the question:—

"A display of the perfection to which we have brought the mechanical arts would include every manufacture of the empire. Each producer would have his stand crowded with the choicest and costliest specimens of his skill—china from Worcester and Derby; the finest lace from Nottingham; the most splendid brocades and silks from Spitalfields; the newest patterns from Manchester, from the raw cotton to the finest manufactured produce; glass, varying in shapes, from the spun fibres for robes and vestments to the most superbly cut chandeliers; the produce of Birmingham, from the common cut nail to the magnificent ormolu decorations for palaces; carpeting, of brilliant patterns; display of chronometers, watches, and clock-work; jewellery, of the rarest and most delicate devices; paper, of the highest quality the mill can produce; printing, in illumination and gold; cloths, of all qualities and all colours; the straws of Dunstable, the ribbons of Coventry, and the crockery of Matlock; the latest locomotive, that triumph of mechanical speed; the Cornwall condensing-engine, that masterpiece of economic power; models of iron steam-ships, for the Atlantic; of men-of-war, for the dominion of the seas; of merchantmen, from the ports of London, Hull, and Liverpool; the finest qualities of arms, in guns, pistols, and watered sword blades; the choicest specimens of carving and cabinet work. Such an exhibition would include all the varieties of articles produced by the skill of the vast body of English artisans—the most ingenious, the most patient, and the most persevering in the world; in a word, everything that could render the exhibition worthy of the industrial manufacture of a mighty empire."

We refer our readers to the proceedings in another column, in the case RICHARDS *v.* CLEAVE and Others, as affording conclusive evidence—so far as the expressed opinion of the learned gentleman presiding over the Stannaries' Court may be considered, as to the oft-mooted question relating to the holding of shares in a mine, and the responsibility attached to the respective holders in cases where the whole number shall not have been filled up, or subscribed for. We have, on several occasions, adverted to this subject, and stated the opinion we entertained as one founded on principle of equity, if not of law, that an adventurer holding five shares, or 256th parts, is liable only to a like proportion, or 5-256ths of any costs; while, on the other hand, he is only entitled to the like proportion of any profits, or surplus, which may be divided from time to time, assuming that he has every reason to believe there are 256 shares, and not that such number is reduced either by the whole not having been subscribed for, or that they have become forfeited.

It was laid down by the LORD CHIEF BARON in the Court of Exchequer, in the case, FOX and Others *v.* JAMES WYLD, M.P., that no matter whether the entire number of shares be taken up or not, if any one adventurer, however slight his interest, shall have signed the cost-book, he at once makes himself responsible for the entire debts and obligations of the company.* How far the VICE-WARDEN concurs with the learned baron will be seen by the words used by him, and which will be found in our report, wherein it will be observed that he distinctly states, where a party shall take certain shares upon the understanding, and with the belief, that the mine is divided into a certain number of shares, and if it should appear that operations are commenced, or expenses incurred, without his consent or knowledge, antecedent to the whole of such shares having been subscribed for and allotted, and the same having been entered in the cost-book, he (the party so subscribing) shall not be held liable to any contract so made, or debt incurred, which must, in such case, be borne by those who may have contracted the same; but, on the other hand, if he shall be an assenting party, and, as in this case, having joined in the answer with the other defendants, admitting that he, with them, "commenced and carried on" the operations of the mine, he must then be considered liable, *pro ratâ*, so far as his holding goes, and, in this instance, the VICE-WARDEN held him responsible. We consider this is equitable and just, for it would indeed be hard, if the *dictum* of the learned LORD CHIEF BARON of the Exchequer was laid down as law. It may be Westminster Hall law, but it is well for the miner that he can appeal to a local court, where equity is combined with law, and common sense with legal attainments. There can be no question but that a party taking five shares, or 256th parts, if that only 25 be taken up, and he thinks fit to carry on the mine with the other 20 shares, so subscribed for, becomes liable to the extent of one-fifth, instead of 5-256ths—or say, one-fiftieth—he has, however, at the same time, the option of retiring or continuing in the adventure, knowing the risk he runs; but as the VICE-WARDEN very properly observed, if his co-adventurers enter into contracts, or incur debts, before the whole number of shares are subscribed for, without having first communicated with the several adventurers, and obtained their concurrence in such course, then such adventurers as may be ignorant of the measures so adopted are not liable or responsible for the acts of others. We should be well pleased if the learned VICE-WARDEN would lay down a code of laws, so as to establish "what is the Cost-book System."

We give, in another column, a report of the proceedings at the adjourned meeting of shareholders in the ASTURIAN MINING COMPANY, whereby it appears that the concern has been managed, or mismanaged, not in conformity with the laws of Spain, which peculiarly applied to it—being, in fact, a company under the ordinances of Spain, and governed by its code of laws—but in accordance with the notions of the directors in London, who deemed it, we presume, *infra dig.* to consult the code, or even the Deed of Settlement, or rules for government, which had been subscribed, or were supposed to have been so done, by the several shareholders. In noticing the proceedings of this company, we are induced to enter on the question at issue at further length than would appear to be called for; but we are anxious to put our readers on their guard, and show the necessity of not only being cautious with whom they associate themselves, or in whom they repose the management of the undertaking with which they may be connected, but to be scrupulous as to their connection with adventures, or adventurers, abroad—for ourselves, we not possessing too much confidence in the Spanish nation, as a body, however honourable may be the exceptions. In the present instance, we are ready to admit that the English shareholders went into the concern with their "eyes open;" but we know it is not every shareholder who peruses the Deed of Settlement, or arrangement or code of laws, governing the company; while, on the other hand, it is only natural to suppose that the directors, and the legal advisers of the company, were conversant with the powers acquired, and the obligations incurred, which, however, we regret to say, appear to have been lost sight of on the present occasion; and hence the position of the company at this moment—bankrupts in funds—with a reversal by the Government of the powers granted—the calls made being declared illegal, and the directors, if we mistake not, in a position from which they would gladly retire, as well as from the responsibilities which they have imposed upon *themselves*.

It appears that, on the 26th of June last, a decree was made, whereby the present company was, *de facto*, annulled and annihilated, on the ground that the several accounts and documents appertaining to the company had not been duly registered in Spain; that irregularities had taken place in the capital not having been subscribed in strict accordance with the regulations laid down; and, furthermore, that the formation of the company was assumed as being in this country, and not in Spain, whereas the English shareholders formed only a part and parcel of the Spanish company, whose code of laws, and those of the ordinances of Spain, should be strictly observed. The allegations on the part of the Spanish holders, from which the decree emanated, stated that a sum of 66,000*l.* had not been accounted for, which, however, we believe is open to explanation, and was resorted to as one of those charges, or pieces of evidence put forward, in *primâ facie* cases, where the other party has not the opportunity of rejoinder. An application made to the courts in Spain resulted in the annulling of the powers vested in the company, and hence it may be considered the company is virtually defunct. The position of the English shareholders is most distressing; it appears that 180,000*l.* has been expended, that there are liabilities to the extent of 20,000*l.*, making a total of 200,000*l.*, the whole of which amount would pay a twelve month's dividend on 4,000,000*l.* Spanish bonds, which, we doubt not, the English holders would be glad to receive.

The point to which we are anxious to direct attention, is that of the acts of the Spanish authorities, and the want of ordinary prudence, or caution, on the part of the administrative of the company in this country. The calls made are repudiated as not being in accordance with the regulations which govern the company; and the Spanish Government having decreed that the company no longer exists, they (the company or directors) are needs content to accede, or at least "to consider," the terms proposed by certain parties who propose to form a Spanish company, with a nominal capital of 175,000*l.*, which, if taken in 100 parts, is to be thus represented: 20 per cent., or 35,000*l.*, to be a *bona fide* cash advance to prosecute the operations of the mines, on which a certain interest shall be first payable, or the interest so accruing be chargeable on the concern previous to any

* Vide *Mining Almanack*, page 244.

division of profits—20 per cent., or 35,000*l.*, with interest thereon, as shares, to be given as a consideration, or *bonus*, for the advance of the former sum, being after the rate of 100 per cent.—and the remaining 60 per cent., or 103,000*l.*, to be allotted in the shape of *shares* to the present Asturian Mining Company.

The affairs of the mine and management to be in Spain, from whence the London shareholders are to *draw* their dividends. We had almost omitted to say, that 10 per cent. of the profits are for the directors in Spain, and 5 per cent. to be set by as a surplus fund. It is not necessary to follow out the proposed scheme; it may, perhaps, under circumstances, be the best step the shareholders can take, but it does not absolve the directors from the charge of lethargy, and the want of tact, or business habits, they have displayed. The chairman tells us that the quicksilver mines have been badly worked—that the coal mines could not have been worse managed—that the large blast-furnace is "out"—and, as they have promised for years, they hope the past will be forgiven, and that, like "good boys," they will do better for the future; but we would ask, where were they, and what have they been doing up to the present period? What will be the result of all these meetings and committees remains to be seen; for ourselves, we do not augur most favourably; while we cannot but consider the shareholders in a "fix," and recommend them to get out the best way they can.

In making up our returns of the sale of lead ores, for the quarter ended 30th June last, we made a remark on the absence of those facilities for obtaining correct statistical data which characterises the public ticketings of copper ores both at Swansea and in Cornwall. This arises from various circumstances; in some instances from an objection to make the amount of sales public for a period of less than the whole year; from the many private sales which are continually being made, and of which no public record can be kept; and, in numerous cases, from an unwillingness to give any information on the subject. Our annual return of the produce of the lead ore and metallic lead in the United Kingdom, furnished by Mr. ROBERT HUNT, of the Museum of Economic Geology, which appeared in our last Number, in some measure makes up for the dearth of information in our quarterly ones; even this, however, must only be taken as an approximation, as we believe that gentleman also finds considerable difficulty in obtaining that correct information so desirable to render these returns complete. On referring to the return in question, it will be seen that we have, on this occasion, given the total of each county separately, with a summary of the whole—thus enabling parties interested to refer to any district, or to any mine required. The total amount of lead ore raised and sold in the United Kingdom, for the year 1848, was 78,964 tons, and metallic lead sold 54,853 tons; while, in 1847, the amount of lead ore was 79,311 tons, and lead 53,410 tons—showing a decrease in the quantity of ore in 1848, as compared with a former year, of 347 tons; but an increase in the metal of 1443 tons.

The price of English pig at the close of 1847 was 17*l.* 10s. per ton, and at the same period of 1848, 15*l.* 15s. per ton. A comparison of the two years thus shows no very great fluctuation in the home trade; but, on referring to the imports and exports, we find a great increase in the latter year. The imports of lead ore in 1847 were 507 tons, and pig and sheet lead 394 tons, and the exports 86 tons of ore, and 3435 tons of metal; while in 1848 the imports were 1298 tons of ore, and 3788 tons of metal; and the exports 135 tons of ore, and 6128 tons of metal—showing an increase in the imports of 791 tons of ore, and 3394 tons of metal, and in the exports of 49 tons of ore, and 2693 tons of pig, sheet lead, and shot, and exclusive of manufactured metal in the shape of litharge and red and white lead. The lead trade forms an important branch of the staple mineral produce of the country, and it is highly desirable that some measures should be adopted, by which an absolutely full and correct returns of sales could be obtained.

The *Times* of Wednesday last published a letter from a correspondent, dated from Wandsworth Common, in which the writer attempts to show that the production of gold in California will be so immense, as inevitably to create a disturbance, not only in the circulating medium, but in the general property of the country. To all mineralogists and scientific persons, having the slightest acquaintance with gold deposits, and the difficulties and cost attendant on the collection of the precious metal, it will be at once apparent that the writer takes a most erroneous view of the subject, and that he indulges in ungrounded fears and vague alarms. As the publication, however, of such opinions, in such a journal, are calculated to spread much error in the public mind, we unhesitatingly take up the subject, with the intention of refuting the assumptions of the writer. He says—

"The want of correspondence between the magnificent reports of the produce of the workings, and the actual arrivals of the precious metal, indisposes people to believe that these will ever reach a point to create any disturbance in the relative value of property in this country. I should be glad to entertain the same opinion; but with my eyes open to all the facts of the case, I cannot but believe that we are on the eve of a most important revolution in the value of our present circulating medium. I will observe, first, with regard to the small quantity of gold yet received, that this proves nothing. Last summer, there were only 3000 persons at the workings—many of whom are dispersed over the world with the produce of their labours in their pockets, not yet telling in a public way in the market; then winter came, and after it a long rainy season—so that up to the last date, although there were perhaps little short of 100,000 workmen ready to take the field, the waters had only subsided sufficiently to afford space for a few of the most enterprising to commence operations. The next three or four months will see the whole host at work, and the aggregate produce of their labour must be very large; but great as it may be, it will probably prove insignificant, compared with what it will be when a systematic mode of working is introduced."

The writer then proceeds to describe the Sierra Nevada as a long range of mountains, with 10 tributary streams into the Sacramento, and seven into the Joachim, in all of which streams gold deposits are found, from which he infers that the whole face of the Sierra is *richly* impregnated with it, and that by the continuous disintegration of the quartz rock, for thousands of ages, immense quantities of gold-dust must have been carried down into the two principal streams, and will be found snugly deposited in them, in enormous masses, at the spots where the tributary streams run in. Here it is only necessary to establish screw iron steamers, fitted with dredging apparatus, and supplied with all the utensils necessary for separating the gold, and melting it into ingots, to enable adventurers to send it away by ship-loads, and which, in addition to 100,000 aspirants for wealth in the dry diggings, will inundate the civilised world, and unsettle all commercial affairs, and the circulating mediums of all nations; and the *Times*, in a leading article, supports this view, unless the excitement should be short-lived, and future facts prove that past statements were grossly exaggerated.

Now, to those who are at all aware of the nature of gold deposits—nor, as far as we can learn, do those of California differ from other parts of the world where this precious metal abounds—it will at once strike them that the writer of this communication is a mere visionary, who would make us believe that gold-dust is to be shovelled up and carried away in California, as cinders may be in this metropolis. Every account that we have yet received (and we refer to the latest, in our columns of to-day) convinces us of the hardships, the anxiety, the sickness, and the danger attendant upon gold-seeking, even in the *rich* plains of the Sacramento; and it is highly probable that, of every 100 who go out elated with hope, and each individual sanguine of returning a very CRŒSUS, the bleached bones of one-third will whiten the auriferous plains, after their flesh has made food for the beasts of the field and the fowls of heaven; another third will get back how they best may, disgusted with the society, the toil, and the disappointment of their own foolish expectations, broken down in health, in body, and in mind; and probably the remaining third *may* continue toiling on until they realise a something worth carrying back, if they escape Death in the various shapes in which he presents himself in these regions of PLUTO, but certainly not with any fear of "unsettling the circulating medium," or "causing a revolution in the value of property."

The idea of *fishing*, or "dredging," for gold in the rocky bottom of the Sacramento or the San Joachim rivers, and we will give the writer another more likely, as being a larger one—the Rio Colorados, which flows into the northern extremity of the Gulf of California by steamers, with anything like a prospect of the most remote success—is really an absurd one. These rivers, in the rainy season, are truly mountain torrents, and so far from there being great deposits of gold at the junction of the tributary streams, we should imagine that every portion of the sandy disintegration from the mountains was carried with irresistable force into the ocean, and there mixed with the other *debris* forming its bed. But even should large deposits of golden sands be retained in holes and hollows, it is well known that tons of sand must be washed to produce ounces of gold, and it is evident the writer under notice is completely out of his element when he begins to speculate on this peculiar natural production. The most prolific spots to search for the precious metals are in the beds of those streams and pools which have been so situated as to form reservoirs for the sands, and which beds have been laid dry, or partially so, by the summer's sun; and in deposits of sand in the plains, which have evidently once formed similar channels, but from which the water-courses have been long diverted. There can be no doubt but that the whole range of the Sierra Nevada, and probably also the Rocky Mountains, with the whole of the "Great Basin," to the extreme southern point of California, are *rich* in auriferous deposits; but this does not imply that 100,000 individuals can rush there, and realise fortunes in no time, only to be succeeded by others, and to inundate Europe with gold, and upset all our present ideas of metallic value, or real property. That many will grow rich we believe, but the collection of the gold will be gradual, and spread over lengthened periods of time. The very colonisation of the district will require in itself a large circulation of metallic currency, and it appears to us that this discovery has been rather fortuitous than otherwise, and that it will do no more than keep up a legitimate supply of gold, replacing that which is lost by wear and tear, and supplying the necessary quantity for the increasing civilisation of the world.

We continue to receive constant communications on the question of slave labour in mines of which Englishmen are the proprietors, and calling on us to use our best energies to deprecate a practice which is so totally at variance with Christian principles, and one so fatal to life amongst the class of persons the most wretched of all human beings. We cheerfully respond, by again bringing the subject before the public, and making some extracts from an able letter, signed "A Cornishman." He says—"I am glad to find, by your Journal, it is proposed to send out a corps of Cornish, or other miners, to Brazil, for the purpose of working the mines of the St. John del Rey Mining Company, and emancipating the unfortunate slaves belonging to this concern, who are now dying in such numbers, from being overworked to keep up produce, that in a short time there will not be sufficient hands to work one-half of the mines, and the company will be totally ruined, if more force is not obtained." There is no doubt that these beings are worked to an extent quite incompatible with their strength, and to such excess has the system been carried, that the slaveowners themselves will not let out their slaves to meet a certain death in the mines of Morro Velho. The only remedy for this great difficulty is to send out about 500 Cornish miners, to carry on the necessary operations.

The slaves, who are now working as "borers," could then be removed at once, and sent to lighter work. It would be most advantageous, in the end, to the interests of the shareholders; confer happiness on the helpless slaves, who are now forced to tax their strength according to the caprice of their cruel taskmasters, and be of vast utility to our miners in Cornwall. The only difficulty in the matter is the expense, and the serious effect it would have, temporarily, on the dividends. It has been suggested that new shares should be issued for this purpose, or the dividends suspended for two or three years; but "A Cornishman" draws our attention to the fact, that there is 5*l.* per share still unpaid on the existing shares, and recommending that this sum should be forthwith called up to form the fund required. The shares are of 20*l.*, and only 15*l.* have been paid, so that the 5*l.* on the 11,000 shares would realise a capital of 55,000*l.*, or about 500*l.* less than the estimate. Our correspondent says:—"500 miners, at 6*l.* per month, 36,000*l.* per annum; ditto passage, at 14*l.* each, 7000*l.*; ditto outfit, 25*l.* each, 12,500*l.* = 55,500*l.*" If more were requisite, it could be easily raised by making a fresh issue of shares. Doing this, and suspending the dividends for a year, would bring the concern into a healthy condition, and remove the danger, which now exists, of its being ruined by the loss of the slaves, to say nothing of the illegality and cruelty of holding slaves."

It seems to us that, if this step were taken, of calling up the 5*l.*, there would be no occasion to suspend the dividends for more than six months, or a year, or of issuing fresh shares, for in the sum of 55,500*l.* the expense of labour for a year is estimated. It is clear, however, to the most obtuse that something energetic must be done promptly, or else the whole concern will suffer to an extent which will take years to redeem. If once the works stop, we all know the serious consequences which immediately ensue, even in this country, where labourers can be procured; but what would be the effect in a foreign clime, where it would be impossible to remedy the evil? However, the parties interested have had warning enough, and the consequences must be on their own heads. If it does come to pass quicker than anticipated, it will be but the just meed for the tenacious manner in which this and other companies have upheld and continued slave labour—have heedlessly sacrificed the lives of their fellow-creatures, and for no other object than to keep up the produce of the mines, and prevent a falling off in the dividends. The total abolition of slavery will come as surely as there is always a day of retribution for deeds and acts opposed to the laws of GOD and man.

CONTRACTS FOR COALS.—The Lords Commissioners of the Admiralty will be prepared, on Tuesday week, to take contracts for supplying 590 tons Welsh coal, for the use of the steam navy at Sierra Leone; 1080 tons at Ascension, and 330 tons at Fernando Po. On the next day, Wednesday, the committee of the East India Company will receive contracts for the supply of 2500 tons of Wall's End coals for Madras.

CONTRACTS FOR COALS IN FRANCE.—The French Government have notified that the Minister of Marine will be ready to receive tenders for supplying 6000 tons of British coal, for the use of the steam navy.

THE AMERICAN COAL TRADE.—An interesting table of the amount and quantity of coal mined and imported has just been published at Pottsville, the chief town of the coal regions of Pennsylvania. Thus:—

Years.	Tons imported.	Value.	Tons mined.	Value.
1830	47,000	$204,773	174,734	$370,000
1844	87,073	236,962	1,631,669	6,155,000
1845	85,776	223,919	2,021,647	10,105,000
1846	156,853	378,597	2,331,013	11,653,000
1847	148,021	370,985	2,967,405	14,835,000
1848	196,251	461,140	3,068,132	15,345,000

In 1830 the duty on foreign coal was 6 cts. on the bushel. Under the tariff of 1842, the duty was $1 75 c. on the ton. Yet, after the tariff of 1842 had operated during three years, the importation of foreign coal had not doubled from 1830, while the mining of American coal had increased by nearly twelve-fold. And after the tariff of 1846 had been in operation for two years, the increase of foreign importation was only 39,398 tons, while that of domestic mining was 737,119 tons. We may add that the "compromise," or descending tariff, began to operate in 1832, and continued till 1842, and consequently that, in the whole period between 1830 and 1848, or 18 years, six years were years of high, and 12 years those of low tariffs. Yet, during those 18 years, the consumption of American coal advanced from 175,000 to 3,068,000 tons, and that of foreign from 47,000 to only 196,000 tons; the first showing an increase of 2,893,000 tons, the second of only 149,000 tons. When, with such facts before them, politicians assert that, without a protecting tariff, our coal mines must be abandoned, they totally misunderstand the subject, or attempt to deceive.

MINING LAW.—In the Vice-Warden's Court, an application was made, in the case, Magor *v.* Tregarden, which was important, as affording demonstrative evidence of the value to be attached to the Stannaries' Court. It was a petition on behalf of tributers against an agent, or purser, of a mine, praying for the production of the setting book, tribute book, ore book, and other books of the mine, containing any entries relating to the claim of the petitioners. Defendant, it appears, kept the books, and set the "pitches." An order was made that the defendant should be in attendance at the trial, and produce the several documents required.

IRON BUILDINGS FOR CALIFORNIA.—The absence of anything like human shelter in the valley of the Sacramento, and the absolute want of lodging room for the accommodation of emigrants to San Francisco, has developed a new source of industry in this country—that of the erection of portable iron houses, of various dimensions, to be shipped for California, and which can be completely put up within four days after arriving at the destined spot, and taken to pieces in 24 hours. Several of moderate size have been built in London, and one is just completed in Liverpool, 110 ft. long, 30 ft. wide, and 20 ft. high, which has taken but one month in construction. The framing and foundation are of wood—the covering and roof being of corrugated iron, which gives it a pleasing appearance. At Manchester, some iron cottages are also being constructed for shipment; they are 20 ft. long, 10 ft. wide, with an arched roof, also of corrugated iron, giving a clear height of 9 ft., and divided into two rooms. Every arrangement is made for light, security, ventilation, and warmth, with a portable cooking apparatus. The iron contained in one of these cottages is about 2½ tons, and the cost is about 60*l.*; if lined with wood, 10*l.* extra is charged.

MONMOUTHSHIRE RAILWAY AND CANAL COMPANY.

In the sessions of 1845, the Monmouthshire Canal Company obtained an Act for constructing a line of railway from the Docks at Newport to Snatchwood, near Pontypool, to communicate with the railroad leading thence to Blaenavon Iron-Works—the existing tramroads to be adapted to the use of locomotive power. The three years allotted for the execution of these several works determined on the 1st of August, 1848.

Early in the year 1847, the company found, from a variety of causes, that the duties devolving upon them could not be accomplished, and they made application in the next ensuing session (1848) for an extension of time, and for collateral purposes. A contest of six weeks between the company and their freighters, in a committee, over which Sir R. Peel presided, eventuated in the company being granted exclusive powers for using their roads and becoming carriers thereon. They obtained 12 months additional time for improving their tramroads, and were allowed two years for the completion of the Newport and Pontypool Railway.

Previous to the 1st ult., the period assigned for the company's commencing on what are called the Western Valleys lines, they auspicated their proceedings by public notices, enjoining the removal of all horses, locomotive engines, &c., belonging to other parties. Seven first-rate, and very powerful, engines were started, which undertook the traffic duties. A goods station was opened at Newport: there were traffic managers appointed along the lines—staff of police, gatekeepers, and supernumeraries. Nevertheless, matters did not go off quite satisfactorily for the first day or two, which was attributed to every thing being new and untried—

Intentata Romanis ingentis opera.

The executive persevered in their efforts to carry out the obligations of the company. It was not long, however, ere a warfare of a most destructive character commenced between the engines and the road. The latter was discovered to be seriously damaged whilst three of the aggressors were laid up in hospital. The engines proved much too heavy for the roads, and consequently such as were not put *hors de combat*, became most irregular in their times of starting and arrival. The traffic trade of the district being much impeded, it was seen pretty generally that the *res severa* could not continue in that state. In fact, ere a week elapsed, application was made to the Ebbw Vale Company, and the Tredegar Iron Company, begging them to resume their own traffic by a return of their locomotive engines (seven in number) on the line—a request of the railway company that was readily complied with. Still, despite this large relief to the company, their embarrassments increased. The average quantity of coal brought to Newport, prior to the 1st ult., was 2000 tons per day, whilst scarcely more than the moiety of that supply per day was conveyed on the first 10 working days of the company. From that date to the 22d ult., the difficulties of the company augmented. Shopkeepers, &c., on the hills were run short of their inflammable fossil. Colliers found themselves unable to support their families, and other inconveniences followed as a necessary sequence. Of course complaints were loud. An action was commenced against the company (by a gentleman to whom the public is much indebted for advocating their interests during a long series of years) for the non-fulfilment of their passenger obligations. They were threatened by notices of actions from other parties.

The committee of management were called together, to consult on this fearful state of things. Their deliberations may be briefly summed up, by stating that a respectful invitation was sent out to the leading freighters, inviting them to a conference, on Thursday week, at Newport.

The parties met accordingly; R. Blakemore, Esq., Sir Digby Mackworth, Sir C. Morgan, Messrs. Powell and Jenkins, jun., represented the committee—Mr. Prothero also attended during part of the conference. Mr. Brown, of Ebbw Vale, delivered a most forcible address, pointing out to the meeting the grevious blunders made by the committee and their executive, owing to their wilful and prolonged inattention to the advice freely given, and in many cases urged upon them, by gentlemen who were pratically acquainted with such works, and the necessities of the district. He exposed the absurdity of the introduction of strangers wholly unacquainted with either the roads, the people, or the country, to the entire and rigid exclusion of the competent parties he referred to. He explained the serious inconvenience all were put to along the whole course of the company's line. As an illustration of their wretched management, Mr. Brown mentioned that, about the 5th ult., the engineer-in-chief of the company actually ordered more than 40 of the Ebbw Vale Company's iron carriages summarily to be removed off the line, which same carriages, without repairs or alterations, had since that time been in constant use in conveying iron to Newport, by means of the Sirhowy tram-road.

The whole of the Ebbw Vale, Sirhowy, and Victoria traffic, proceeded Mr. Brown, had been, and would continue to be, diverted from the company's line in consequence, while he intimated his well-grounded apprehensions that the trade of the district would be entirely suspended, and expressed his willingness to avert by all means in his power such a serious calamity. The committe on their part acknowledged with deep regret the truth of Mr. Brown's representations; they declared their anxious desire for the resumption of an amicable feeling between the company and their freighters, and signified their wish to meet the latter in every possible manner in regard to tolls, and all other points of difference. The chairman eloquently invited the freighters assembled to extend to the company their valuable aid and co-operation, and to bring their local knowledge to bear in devising means to meet the emergency so pressing upon them.

We are glad to be able to state, that this appeal of Mr. Blakemore was not made in vain, and that an arrangement of the following nature was entered into—viz.: That the present engines of the company be discontinued, until the roads shall be relaid at short bearings, &c.; that horses be again employed from the collieries—the company making good the difference between the rates allowed for luggage by their Act and the cost by horses; that the Blaina Company use their own locomotive engines; that six or eight new engines, of about 14 to 15 tons each, be ordered from the tramroads; that in drawing out specifications, the engineer submit the same for the approval and sanction of Messrs. Homfray and Brown, those gentlemen engaging that their locomotive engineers should afford the engineer of the company the aid and suggestions of their valuable practical experience of some 20 years on the tramroads. It was also stipulated and agreed to, that all threatened actions should be withdrawn, or suspended, and that the gentlemen there present would exert their influence in rescuing the company from the consequences of their inability to carry out the obligations imposed upon them by Parliament. It was hoped that the company would be able to enter upon their duties fully by 1st Jan. next.

On the same evening there was a dinner at the King's Head Hotel, Richard Blakemore, Esq., in the chair; W. Jenkins, jun., Esq., vice-chairman. Messrs. Homfray & Brown, Leech, Cartwright, Morrison, J. Brown, Latch, jun., Powell Balbirnie, E. Rogers, Marsh, &c., being present. There prevailed an interchange of kindly sentiment and good feeling; and if we may judge as to what may be expected from the *re-union*, by the midnight hour at which it broke up, we should be inclined to augur most favourably.

We cannot conclude this summary of what we are bold to designate the most important meeting which has been held in Monmouthshire for many years, without subjoining our best wishes for the interests of all concerned.

GREAT WESTERN DOCKS, PLYMOUTH.—However desirable these docks might be for the trade of Plymouth, Devonport, Stonehouse, and neighbourhood (and the general opinion has ever been that, when complete, they would become an absolute national advantage), from information we have acquired, we fear that there are but faint hopes of the works ever being completed by the present shareholders, unless some at present unforeseen and unhoped-for source should be discovered from whence capital can be derived. It appears that, when the works were surveyed, and plans and estimates made, it was shown by authenticated data that the completion of the docks would only involve an expenditure of 80,000*l.* to 100,000*l.* On the faith of this the shares were taken up, application was made to Parliament for two Acts, which cost 5500*l.*, and operations were commenced. It was soon, however, discovered that they were proceeding at a cost most outrageously beyond the estimates—the dock wall masonry, estimated at 6s. per yard cost 28s.; excavations estimated at 1s. 6d. per yard, cost 4s.; and the works at the pier, carried on by means of the diving bell, which were put down at the absurdly low rate of 1s. 6d. per yard, cost the equally enormous sum of 2*l.* per yard. On looking further into the affair, we find the capital already subscribed to be 67,062*l.*, from which a sum of only about 12,000*l.* has been expended in the formation of the docks, the remainder having been disbursed in the purchase of the ground and the Mill Bay pier. There now only remains 33,000*l.* to call up on the present shares, of which 10,000*l.* has to be paid the contractor, who holds a bill, at six months date, for that amount; and unless, therefore, another issue of shares takes place, for the purpose of raising additional capital, the docks must remain at a standstill. The following estimate, and we believe it is not far from the truth, will give a pretty idea of the correctness of the engineer's original calculations, one who has certainly had experience enough to be somewhat nearer the mark:—

To complete south wall, including excavations and masonry	£25,000
Coffer dams, locks, and entrances	40,000
North, east, and west walls	40,000
Construction of graving dock	25,000
Steam-engine, 100-horse power	4,000
Inner basin complete	16,000
Outer basin complete	12,000
Quay wall from docks and pier	15,000
Deepening harbour at Mill Bay pier	10,000
Total	£187,000

To which must be added the cost of the various sheds, tram roads, cranes, weighing machines, and numerous contingencies, which will swell the amount to at least 250,000*l.*, to meet which, when all calls on the present shares are paid, there will be a balance of about 23,000*l.* Whether this unfortunate state of things has been brought about through sheer recklessnes, in making the first estimates, or whether it was intentionally done to entrap shareholders, we trust a searching investigation will take place, and some explanation (satisfactory we fear it cannot be) given to the public. Unless the works are either carried on, or the timber work taken up again, the sea-worm will, in course of a short time, destroy the entire, and render it necessary to reconstruct the whole of the preparatory works, on which the principal money has been expended.

RAILWAY PARCELS.—One of the longest answers ever lodged in Chancery since the remarkable case of "Small *v.* Attwood," has just been filed in answer to a bill of great length filed by a leading railway company against a carrier in Blackfriars, who had brought actions against the company to recover for lost parcels, and to try the validity of the charges made to the extent of about 200*l.* The answer occupied 73 skins of parchment of the largest size.

THE LONDON CLAY.—It will be recollected, that at the first court held on the proposed tunnel of Mr. Phillips, Dr. Buckland asserted unequivocally "that there was not an atom of London clay between Rotherithe tunnel and the base of Shooter's-hill," and that "it glanced off at the north-east corner of St. Paul's." Since that time, evidence of the most satisfactory nature, and from unquestionable authority, has been obtained that it does exist, and in large quantities, in places altogether denied in the speech of Dr. Buckland, as will be found in the following statement:—At Greenwich marshes, opposite Blackwall, 55 feet of London clay; near the London Dock and St. Katherine's Dock, 55 feet; at Bermondsey, 55 feet; near London Bridge, 130 feet; at Westminster, 170 feet; at Kensington, 170 feet; and at Brompton, 237 feet; and for a considerable distance above London-bridge the bed of the river is cut in the blue clay.—*Builder.*

Original Correspondence.

SIMPLE REMEDY FOR CERTAIN DOMESTIC POISONS.

SIR,—Now that the great question of sanatory reform has begun to assume a position of due importance in the public mind, and that while the average mortality of the metropolis has nearly doubled, the true generative cause of the epidemic to which its increase is mainly attributable continues to be involved in such profound obscurity, and to baffle the searching vigilance of medical inquiry, any hint directing attention to a predisposing cause of morbid action, or any suggestion adverting to a possible remedy, is likely to be received with some degree of interest.

It is quite certain that a plentiful supply of pure water is absolutely necessary to the maintainance of health, and it is equally certain that the water which is supplied to this metropolis, and to many of the large towns and cities of the kingdom, is not furnished in the highest possible state of purity, but is subject to a variety of contaminations, organic and inorganic. I propose here to speak of one of these only, and to suggest a remedy of extreme simplicity and ready application. The evil effects resulting from the use of lead in pipes and cisterns has been admitted by the world for the last 1800 years.

Vitruvius, the Roman architect, forbids the use of lead for conducting water, because the corrosion which occurs upon its surface is hurtful to the human body. Galen decries the use of leaden pipes for the same reason; and architects, chemists, and physicians, have expressed themselves generally in similar terms upon the subject from that period to the present time; and yet, though the fact is now admitted with scarcely a dissentient voice, though all are agreed upon the baneful effects which the compounds of lead exercise upon the human system, even when taken in minute doses; and though the concurrent results of experimentalists have shown that almost all waters possess the power of corroding and dissolving lead to a degree sufficient to exercise a poisonous influence over the human economy, it still happens, partly from custom, partly because the effects of the poison, when gradually introduced into the body, are slow, insidious, diffused, and, therefore, difficult of detection; and partly, again, because the evil alluded to is counterbalanced by certain practical advantages and facilities, that the system continues, notwithstanding, in full force. It is only when the circumstances of disease, arising from this cause, are in a measure isolated from others, and when they stand forth in such bold and prominent relief, that to gainsay the fact is next to impossible, as in the recent disastrous occurrence at Claremont, and some other instances which might be cited, it is only then that any particular attention is drawn to the subject.

But we should not forget that the operation of Nature's laws, though not always manifest to the senses, is, nevertheless, constant and universal in its action and in its consequences. The important physical truth, to which I here venture to call attention, is undeniable—the facts have been traced, and the order of their occurrence has been carefully examined. Water most certainly does exercise a corrosive action upon lead, and the result of that action is habitually received into the system, and from the very nature of things it must exert a hurtful influence. It is very true, that the broad fact here stated is sometimes modified, or altogether suspended in its occurrence, by the operation of circumstances. Thus, for instance, the waters of Edinburgh have scarcely any action upon lead, and the mineral spring of Airthrey, near Stirling, has none at all. So also, if pure distilled water be deprived of atmospheric air by boiling, its power of acting upon lead is entirely suspended. But once allow a free admission of atmospheric air to the surface of the water, and the following changes take place:—The lead is gradually corroded; it combines with oxygen, and with the carbonic acid of the atmosphere, producing insoluble carbonate of lead. Christison states, in his excellent *Treatise on Poisons*, that this effect is produced with great rapidity, and that in an experiment of his own, 12 brightly polished lead rods, weighing 340 grains, lost 2½ grains in eight days. Indeed, if I recollect rightly, a company was formed some few years since, and large works were established at Pimlico, for producing this very carbonate for commercial purposes, by the agitation of leaden shot in revolving cylinders, which were supplied internally with a small stream of water. The fractional quantity of carbonic acid naturally existing in the atmosphere is obviously a necessary ingredient in this process, for if it be first removed from the air by artificial means, then the character of the chemical product is complete changed, and instead of the carbonate a hydrated oxide is produced, which no longer effervesces on the addition of an acid. The resulting compound in both cases is partly held mechanically suspended by the liquid, and partly precipitated to the bottom of the cistern. It was noticed by Christison, and clearly referred by him to galvanic action, that though the lead itself was corroded, the solder used in uniting the joints had entirely escaped action, and was everywhere clean, bright, and untouched; and it is a curious circumstance that so acute and profound a chemist, and with such a fact as this before him—a fact which evidently arrested his special attention, did not at once perceive the obvious remedy; and by simply throwing a piece of zinc into the cistern induce a voltaic current to flow in a new and opposite direction, cause the whole surface of the lead to assume an electro-negative polarity, and thus to be complete proof against all further action. It may, perhaps, be said that by such a proceeding as this, we merely substitute one metallic poison for another. True; but the effect is produced under circumstances of a very qualified and ameliorative character, and if necessary it may be excluded altogether.

In the first place, from all that I can gather upon the subject, it appears to be a well-ascertained fact that the salts of zinc are not nearly so hurtful to the constitution as those of lead; and, secondly, a very small piece of zinc will protect a large surface of lead; and such an arrangement, though practically efficient, would seem to imply a limited amount of chemical action. I tried the experiment yesterday with a delicate astatic galvanometer. A piece of lead, presenting a surface of about 4 square inches, was connected with one extremity of the galvanometer wire, and then plunged into a tumbler of water. To the other extremity of the coil was attached a piece of thin zinc wire. The moment the point of the latter touched the surface of the water, the galvanometer needle swung smartly round into a position, showing that all further action had ceased upon the lead, and that it was now merely acting the part of a negative conductor. Iron might possibly be considered as preferable to zinc in this respect, but its electrical relations forbid the substitution; for though it is positive to lead in dilute sulphuric acid, and many other solutions, it is negative to the same metal in water; and when an iron wire was substituted for the zinc in the last experiment, the magnetic needle assumed a position directly the reverse of that just named; and in place, therefore, of acting as a protector, it must necessarily have caused the lead to be dissolved with additional energy. If, however, it should be considered as practically desirable to exclude the products of corrosion altogether from the general mass of water, nothing is more easy; for the action being local, and not general, as before, the zinc may either be placed in a small porous cell, or in such a position that the gravity of the resulting solution will almost entirely prevent its intermixture with the superincumbent body of water. One thing must not be lost sight of. If any metal whatever is slowly corroded in a saline solution, and that the resulting compound is insoluble in water, the latter will tend to adhere to the surface, and protect it from further injury; but if from the presence of certain elements even a minute portion of a soluble salt of the metal be formed at the same time, the tenacity of the insoluble compound is either greatly impaired or entirely destroyed.

From the operation of these causes most spring waters exercise a comparatively feeble action upon lead, but if a little nitrate of soda or other such salt be added to them, chemical action will proceed more rapidly by the disintegration of the protective crust. I state this as a general law derived from a vast number of experiments which I have made with the voltaic battery on the electrolysis of saline compounds. I may observe, in connection with this part of the subject, that it would probably answer a very good purpose, and tend to the general promotion of health, if the waters which are supplied to large towns and cities were all subjected to rigid analysis by experienced chemists, and their physical and electrical relations thoroughly sifted and examined. A digest of the results would furnish the scientific man with accurate data for directing his future efforts, or for testing the validity of any subsequent project which bore reference to the purification of this great and indispensible gift of Nature. I will now call attention, in a few words, to a second application of galvanic force, the object of which is also to prevent the casual introduction of metallic poison into the human stomach, but from another source. It is very well known that copper vessels were at one time in extensive use here and elsewhere, for the boiling of water and the preparation of food, but the frequent occurrence of accidents arising from superficial corrosion has now rendered their employment extremely limited.

The danger arising from cupreous impregnation is so generally recognized, that a citation of instances in proof of the fact is altogether unnecessary. As a preventive to accident, therefore, copper vessels are generally tinned; but this is insufficient, and it is acknowledged to be so, for the coat of tin is apt to wear away, and the circumstances escape observation. Now, galvanism supplies us with the most perfect safeguard against these casualties. A small iron bolt fastened to the bottom of any copper vessel will render it electro-negative, and completely and effectually preserve it from corrosion; and those who may be using such a vessel without a preservative of this kind should throw into it two or three iron nails, which will serve the same purpose—the great point to be attended to being a contact of the iron with the copper, and with the liquid which it contains. This simple arrangement entirely dispenses with the necessity of tinning. It is as well to remark here, that the electrical relation of these two metals (iron and copper) is reversed in alkaline, or sulphuretted, solutions, the copper becoming positive, and the iron negative.

I venture to submit these views to the consideration of your readers, and especially to those who are directly interested in the fabrication of the articles referred to, thinking it possible that some benefit may arise from their adoption.

ISHAM BAGGS.

THE SEWAGE OF LONDON.

SIR,—In your Number of last week, mention is made of a plan of Mr. Matthias Dunn, for pumping up water from the Thames, and using it for scouring out the sewers of the district around Newgate-street and that part of London; and, at the same time, he proposes to take the supply of air for the engine, or boiler fires, from the sewers themselves. Both of these appear to be useful and practical suggestions. They could be effected without any enormous oulay, and, without doubt, they would produce very beneficial results. It has long appeared to me that, whilst the sewage commissioners and sanatory boards are squabbliug, and whilst schemes for improved sewage, involving vast sums of money, are under consideration, that great public good would result from washing out the drains and sewers of this great hive of men as often, during this season of drought and heat, as the supply of water at command would permit; and in case the plan of exhausting the foul air by furnaces be found successful—and I can see no good reason why it should not—the atmosphere of the town may be improved at a very moderate cost, and some progress in the right direction would be made. It will be years, Mr. Editor, before a new plan of drainage, whether Mr. Austin's, or Mr. Phillips's, or any other, can be brought into action; and something for the sanatory condition of London should be done at once.

The first and foremost remedy for much of the evil is *a supply of water*—clean, pure, wholesome water. London is now nearly the worst supplied city in the kingdom, and nothing is doing to remove, or relievo, the urgent want. I cannot too strongly entreat you to exert your influence upon this all-important point. You should invite communications from your intelligent correspondents, as to plans which may have occurred to them; and, having selected a good one, you should back it by promoting a practicable form of association to carry out the scheme or schemes. It has always appeared to me that the great railway companies might afford vast aid in getting water to London. We want more water, and we want better water. The railways are tracks along which piping may be laid; the land is already bought and paid for, and the stations are well placed, and generally afford space for receiving and distributing the water. The prices of iron piping, of engines, pumps, and of labour, was never lower than at present, and the public at large would back the scheme. I do not mean that the railway companies are to find the capital; but they may permit the use of their land, &c., to be made upon fair conditions, and it would be a source of revenue to them. I do not in any degree mean to undervalue the suggestions of Mr. Dunn, but confess that a larger supply of *pure good water* is the first and most important matter to which the public attention should be directed, and co-operation should be invited.

London, August 30. C. E.

MANUAL *v.* HORSE AND STEAM POWER.

RESPECTED FRIEND,—In my communication, in last week's Journal, there are some errors in the statement of comparison between turnpike-roads and railways, though the totals are correctly given; the statement should have been as under:—

TURNPIKE ROADS.		RAILWAYS.	
Cost of turnpike-road	£12,000	Cost of railways	£120,000
Ditto of eight engines	8,000	Ditto of engine	1,000
	£20,000		£121,000
Interest on £12,000,	£ 600	Interest	£6000
Wear and tear, 25 per cent.	2000	Wear and tear (25 per cent.)	250
Repair of road	600	Repair of road	180
Four engicemen	300	Two enginemen	150
	£3500		£6580

Upon further consideration, this statement is somewhat deficient; inasmuch, that if the railway engine consumes 100*l.* worth of fuel, then the eight turnpike engines ought to be charged with 800*l.* for fuel. Now, as to existing railways and turnpike roads, I think the following statement will form the most accurate comparison:—

TURNPIKE ROADS.		RAILWAYS.	
Cost of road—*nothing.*			
Cost of eight engines	£8000	Cost of railway	£120,000
		Ditto of engine	1,000
	£8000		£121,000
Turnpike tolls, say 20 per day	£ 365	Interest	£6000
Cost of fuel	800	Cost of fuel	100
Wear and tear, 25 per cent.	2000	Wear and tear	250
Four enginemen	300	Repair of road	180
		Two enginemen	150
	£3465		£6680

If a patent timber track was laid upon the road, then the difference of friction between a good track and an iron rail would not exceed as 6 to 4—viz., six engines on a turnpike-road would be equal to four upon a rail, in which case the statement may be thus made:—

TURNPIKE ROADS.		RAILWAYS.	
Cost of a good timber track, say 1000*l.* per mile	£12,000	Cost of railway, say 10,000*l.* per mile	£120,000
Ditto of six engines	6,000	Ditto of four engines	4,000
	£18,000		£124,000
Interest	£ 600	Interest	£6000
Toll half that on stones	182	Wear and tear	1000
Wear and tear, 25 per cent.	1500	Repair of road	180
Fuel	600	Fuel	400
Four enginemen	300	Two enginemen	150
	£3182		£7730

By adopting a good timber track, which may be fixed on the middle or side of the road, without the least inconvenience to the public (but, on the contrary, be a great accommodation by the public using it, and thereby enjoying the easy motion consequent thereon), the perfect success of steam on common roads so provided appears to me to be indisputable, and that a large profit may be realised, at the *average charge of one-halfpenny per mile.*—THOMAS MOTLEY, C.E.: *Stangate, Lambeth, 8 mo.* 29.

MANUAL POWER *v.* HORSE AND STEAM-POWER.

SIR,—Your correspondent, Mr. Motley, appears to show upon paper the great advantages of manual power, though, according to his own statement, his project is only applicable to very level localities, fenny marshes, and peat districts. As Mr. Motley has not made known his plans, it may, perhaps, be premature to hazard an opinion thereon; but, if it be the wooden railway he spoke of some months since, my opinion is, that very few persons will entertain a favourable view of the suggestion. In many of the peat localities on Dartmoor, for miles it is dangerous even for a sheep to venture upon their tracks, for it would be instantly swallowed up, and in most peat localities the same danger exists; also, in others, where the peat is more firm, a single person walking upon it puts the mass in motion for 20 to 30 yards on either side. The only method I can imagine for making a road over such places, would be to lay down a platform, from 15 to 20 ft. wide, with a railway on the top of it from one side of the bog to the other. Even with this, it would not be safe for a weight of more than 4 or 5 tons, and in rainy seasons much less. How, therefore, Mr. Motley is to make a road of this description for 800*l.* per mile, I cannot tell; and as his patented invention is only applicable to bogs, &c., how he intends to find a traffic in such places is best known to himself. It appears that, after my letter on granite tracks (Haytor Quarry *v.* Brent's wooden road), Mr. Motley has, no doubt, become convinced of the fallacy of wood for the common roads, and the durability of stone for such purposes; but should Mr. Motley's invention be of a superior description, it may be brought into use; more particularly if the Government, as you suggested, employ convict labour for the cultivation of Dartmoor.

Ashburton, Devon, Aug. 27. CIVIL ENGINEER.

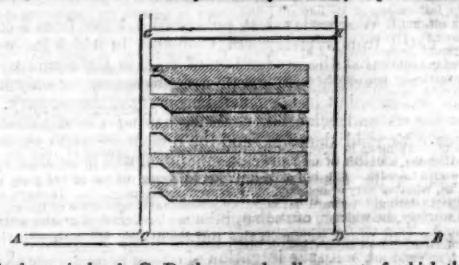
COPPER SHEATHING.

SIR,—I should be most happy to respond to the suggestion of Mr. Birkmyre, in answering Mr. Prideaux's call, to give a concise and comparative view of all the new modes of smelting for the last seven years, did I see that any practical good would result from the expense of time and trouble which it would necessarily incur. From time to time, in your Journal, there has been published nearly, if not all, the different methods of smelting, both on the English and German principles. Napier's process, I believe, is only at present in work at the establishment at Bow, and Messrs. Schneider's in Wales. Their works in South Australia are likewise conducted on the same plan, though no precise account of the results there have been published; yet report says that they have met with all the success they desired. The selection and mixing of ores, I fully agree with Mr. Prideaux, will bear a good deal of investigation, both in relation to the quality as well as quantity of the product. In a communication I made some time since, I informed you that the Elbe Copper-Works, in Hamburgh, had received a certificate from the Prussian Government, that their tough cake copper for sheets was superior to that purchased in England. The cause alleged by the Prussian chemists was that the copper was produced from South American ores without any admixture. Mr. Birkmyre very justly remarks, that we are following in the wake of the Americans and the Australians, instead of commencing the initiative in all improvements. How can it be otherwise, when our mining interest is so apathetic, that they allow a few monopolists to rule them as they please? It requires no prophet to foresee the consequences which must follow; by not introducing all the practicable improvements in smelting, they will shortly not be able to cope with their colonial rivals; and we shall see, before many years, copper produced in the colonies competing in London with that from Cornish ores. Then, and not till then, when "the wolf is at the door," will they begin to think of remedying the evil. This question has now been some months before the public, and, as yet, no practical conclusion has been arrived at. Some of the Swansea smelters took part in the discussion, but as soon as requested to explain any obscure expressions in their own communications they became obstinately silent, whether from ignorance or jealousy I will not presume to divine. All others have cheerfully taken part in the discussion, and give their quota of information as soon as desired. For myself, I have long since come to the conclusion that it is useless to prolong a debate, where a portion of the parties merely distil by driblets such information as they think fit to give. If we are to attain any real knowledge, it must be from persons who are not so bigotted to their old routine as the generality of the Swansea smelters, or men who are so uncourteous, as when asked for an explanation to ignore it, by not taking the slightest notice. GERMANICUS.

Fleet-street, August 28.

THE COLLIERY EXPLOSION AT ABERDARE.

SIR,—The coroner's inquest on the recent explosion at Lettley Shenkin Colliery, near Aberdare, being now before the public, I beg to make a few remarks on the subject. The evidence given goes to prove that, in this case, there was no particular want of care or attention—"The colliery was ventilated as well as others in the neighbourhood," are the terms used. The South Wales coal workings have been almost entirely confined to the outcrop of the measures, and, as a necessary consequence, no great difficulty has been met with in working or ventilating them. The present system of working has been, therefore, pretty successfully pursued, and is, perhaps, except under *extraordinary circumstances*, the best that can be followed in the district; but where *much* gas is found, as in the Aberdare Collieries, *it will not do.* The system may be briefly explained as follows:



A, B, is the main level; C, D, the cross headings, out of which the stalls are turned and worked; E, the windroad between the headings. After the stalls are driven the required distance, the pillars between them are worked out, as shown on the shaded part of the sketch. Now, the shaded portion being entirely void of ventilation, I ask, is this place in a fiery colliery not absolutely forming a complete receptacle for the gas to accumulate in, and making the old workings a regular gasometer?

I care not what system of ventilation be adopted—you may cause almost an unlimited flow of air through the headings and levels—but with these *magazines* ready charged, at an atmospheric change, to pour out their deadly contents, I contend that the safety of any colliery, when gas is found to accumulate in the old work, cannot be depended upon for an hour. I would, therefore, humbly beg to call the attention of the colliery proprietors and agents in the Aberdare Valley to this fact, and implore them to change their present system of working.

Their workings ought to be divided into districts, the stalls holed from one heading to another, and regularly coursed with air, to keep them clear of gas. After all the stalls in any heading are finished, *then* to begin pillar working, and *not till then.* There ought also to be a separate air-course provided from the headings, where pillar working is begun or finished, so as the return air from such places may not come into contact with headings where stall working is progressing. It is entirely as a friend to humanity that I send these remarks; I have no wish to offend any one, neither have I any party purpose to serve, and am ready to stand corrected, if my reasoning can be proved faulty. A NEWCASTLE COLLIER.

August 28.

PREVENTION OF EXPLOSIONS IN COAL MINES.

SIR,—The recent awful colliery accident at Aberdare causes me most earnestly to call your attention to the following cheap, simple, and, at the same time, most effectual means that I think can be devised to prevent a similar catastrophe from again occurring. My invention is not patented, and I most cheerfully make it public property, through your columns, in hopes that it may be put into practical operation immediately by some benevolent persons, for the benefit of those of our fellow-creatures who are daily toiling in the bowels of the earth. The basis of the principle rests upon the well known affinity which water has for carbonic acid gas. Now, as carburetted hydrogen gas (fire-damp) contains carbonic acid gas, and that choke-damp is carbonic acid gas, I humbly recommend a plan that will enable any person, not being in the mine, to detect the presence of either, and that with certainty; it is as follows—Take a common galvanometer, which will cost about 10s., from it lead an insulated wire down the shaft and through the mine, carrying it during its course at convenient distances up to the roof, and then again to the ground, and finally conduct the end of the wire into the earth itself at any convenient place. At those parts, in connection with the roof and the ground, place a small vessel of water (it may be lime water) with a plate of zinc and copper in it, and a piece of sponge or some suitable material to keep the plates from touching, which we shall see will act such an important part; the wire at those places is to be cut and connected with the small plates, the incoming wire to be connected at the roof to the zinc plates first in all cases, but on the ground to the copper first; the circuit being made complete at the galvanometer by means of a short piece of wire in connection with it and the earth; the galvanometer to have engraved on one side of the indicator the words "fire-damp," and on the other side the words "choke damp." Now, the arrangement will be such that the indicator will not move unless there be present either of the gasses; if it be fire-damp, the water will absorb from it a part of its carbonic acid gas, thereby slightly accidifying the water, which will excite voltaic action; the result will be that the indicator will point to the fire-damp: if, on the other hand, it be choke-damp, itself carbonic acid gas, then the vessel of water in connection with the ground will absorb a portion of it, consequently the indicator will point to choke-damp, because the two small plates at each place on the ground are set different from those in connection with the roof, thereby making the one

indicator self-acting for the two purposes, and that with one wire—thus the much-dreaded gases themselves can be turned to account in making known their presence miles off, if desired. The first outlay would be but trifling for each mine, and would be a perpetual safeguard.

Melton-crescent, Euston-square, Aug. 28. GEORGE LITTLE.

COLLIERY EXPLOSIONS—GOVERNMENT COMMISSIONERS.

SIR,—At length the explosions in coal mines have arrived at that crisis which has witnessed the appointment of two Government functionaries—Mr. Blackwell for the districts south, and Mr. Philips those north of the Trent; and scarcely have their appointments been made than a dreadful explosion in Scotland, and another in South Wales, demand their personal attention. We, therefore, learn that Mr. Blackwell has devoted several days in examining into the cause and circumstance of the latter, after which we may expect to have a lucid report as to the existing system of the workings and their ventilation, the quantum of air actually passing round the mine, the mode in which it was conducted, and whether any, and what, deficiency prevailed, by which the lives of these poor people were sacrificed. If it should turn out that a change of system is requisite in that and other districts, then we surely may expect an immediate movement on the part of Government, by which a wholesome course of management may be enforced. And since these individuals are now invested with official power, would it nôt be highly recommendable that your correspondent, Mr. Colwell, should detail to them his scheme of pipes and pot-holes, rather than find fault because Mr. Clarke, of the Wall's-End Colliery, and other practical viewers, cannot persuade themselves of its excellence. If these gentlemen were convinced of its efficacy, they would, as a matter of duty, recommend and urge it on; whereas it is an endless task for Mr. Colwell to initiate coal managers in a system replete with philosophical and chemical complexity. If his friend, Mr. Clarke, had given him a certificate, that would have made a great point; but I suggest the Government commissioners as more influential still.

Newcastle, August 29. A COAL OWNER.

ON THE VENTILATION OF MINES.

SIR,—The ventilation of coal mines is assuming daily so important an aspect, that every person connected with mining cannot fail to be interested in the subject. Whatever affects the prosperity of so great a division of British industry, demands careful and mature consideration. Still more imperatively is this necessary, when the question, as in the present case, is not merely one of commercial polity, or economy in production, but involves the far more serious question of the preservation of human life.

It is scarce a twelvemonth since the subject of Government interference was discussed in your columns, and by some of your correspondents with much ability. Its advantages and disadvantages were fully set forth, and I believe I do not err in saying, that the greater portion of those connected with the mining interests were decidedly adverse to it. The obtrusion of any system of supervision would then have been deemed a grievance, and the outcry raised would have been almost as great as that which is now made on the opposite side. Public opinion has since changed, and the necessity of such interference is now almost universally admitted. The fearful occurrences which have recently thrown a gloom over the mining world, serve to convince the most sceptical that some measures must be made use of, to lessen the frequency of accidents, and provide for the safety of the miner. The admission of this necessity is the basis upon which all further proceedings are grounded, and until this was demonstrated, all measures taken in anticipation of the proof would have been premature. This, then, being admitted, the next question that arises is as to the extent and mode of such interference. A subject involving interests of such vast magnitude was not to be treated in a hasty or injudicious manner; great caution was essential, in order to avoid all unnecessary entrenchment on the rights of proprietors, or interference with private enterprize. The individual responsibility of managers had to be carefully maintained; the aid afforded by scientific knowledge to be applied in the best and most practicable manner; the experience of practical men in the various mining districts to be collected and analysed; and out of the information to be thus obtained, the Government might hope to mature a plan which should be at once effective in its operation, and successful in the end. To attempt legislating on so complicated a question, without first obtaining facts for guidance, and a perfect knowledge of the subject, would have been mere imbecility. A knowledge of mining is not to be gained in Downing-street, nor can anything but a long course of observation and experience give an acquaintance with the many and various difficulties with which the miner has to contend, or the best means for surmounting them. The folly of attempting to legislate from insufficient observation, is well shown in the miserably inapplicable bill of Mr. T. Duncombe, which was proposed, and afterwards withdrawn, in the last session of Parliament; and which he assured the house "he did not draw up himself, but it was agreed to by a *deputation of workmen* from all the collieries of the kingdom." The bill provided "that the workmen should be paid by weight, and not measurement, as was the case at present. The consequence was, that if any stones or foul matter got into the coal, the workmen lost a great deal of their work." No person at all practically acquainted with mining, will suppress a smile at the simplicity of Mr. Duncombe, or will doubt for a moment his assertion, that the bill "was drawn up by workmen." The hon. gentleman referred to seems to be singularly unfortunate in his connexion with mining. In June, 1847, he brought a bill before Parliament, which, among other details, empowered the Government Inspector to enforce the adoption of such a mode of working as he might consider requisite, under penalty of 100*l.* for each act of disobedience; a stretch of authority perfectly unparallelled, and which no class of proprietors would tolerate. The bill of Mr. Hume, enforcing the use of the Davy lamp in all collieries, whether fiery or not, &c., was scarcely less objectionable. In short, every measure hitherto brought forward has betrayed a lamentable ignorance of the subject, and there is scarcely one which, if carried out, would not have entailed greater evil than it effected good. That the Government should have determined not to legislate on the superficial information now before them is, in my opinion, highly creditable to their prudence. Such an error in the detail of any measure introduced by them, would provoke not simply a smile, but one of the deepest contempt. The inquiry into the practical working of mining inspection in France and Belgium, and the appointment of commissioners to examine into the present state of the coal mines of Great Britain, and the particulars in which improvement is required, offered, perhaps, of all others, the readiest and best means of obtaining authentic information. Nor do I think that their choice of those gentlemen has been otherwise than judicious. Professor Phillips has, I believe, in addition to his other scientific acquirements, devoted much attention to mining. Mr. J. K. Blackwell is well known in Staffordshire as a sound practical miner, of many years experience, whose judgment has been matured by a personal inspection of nearly all the principal coal mines of Great Britain, the European continent, and the United States. When we consider that the system of coal mining differs so materially in the several districts of the kingdom—that any man whose experience has been confined to one particular district, seam, or method of working, is wholly incompetent to conduct a work on some other seams, or under another method of working, it will be at once seen how various are the requisites to be combined, and how difficult it is to find any individual to fulfil all those requisites. I believe some gentlemen in the North of England consider themselves aggrieved by the choice. But, as a whole, keeping in view the jealousy and ill feeling which might have been engendered by a local appointment, it is perhaps as well that Professor Phillips, whose scientific acquirements certainly entitle him to precedence, should conduct the survey of their district. In any case, the propriety of these appointments can be determined only by the results; and until these have been produced, it is the part of the temperate and fair not to prejudge them. I have been somewhat pained to observe the tone of your correspondent, "Justitia." Not that the statements of an anonymous writer carry weight in themselves, but because, in this instance, they have been raised by your editorial comment to an importance to which they had otherwise no claim. Before your correspondent taxed the commissioners with incompetency, it would have been just to ascertain whether the complaint was well grounded. On the contrary, in the case of the first mentioned gentleman, he evidently knows nothing more of him than his name; and as to the second, he is even ignorant of that, and heaps charges indiscriminately upon him, under the supposition that he is attacking Mr. Bakewell, the geologist. Having at length discovered his error, with a coolness perfectly astonishing, he simply changes the name, and proceeds as though he had made no mistake at all. Anonymous writing is at all times to be deprecated, but chiefly so when it is made a vehicle for the bile of a disappointed expectant, or an intriguing office seeker.

The difference of opinion that prevails on the subject of ventilation, and the impossibility of forming a correct judgment from theory alone, without rectifying its deductions by actual observation, may be estimated from the numerous communications in your own columns. Every man thinks himself competent to direct the ventilation of a coal mine. Every empiric produces his own panacea. Gutta percha piping, air pumps, and fire-damp bags, pass before us in endless confusion. If the limited extent of my own experience may entitle me to the expression of an opinion, I would say, "The evil, O Brutus! is not in the gods, but in ourselves." The rarefaction of air by heat, the steam jet of Mr. Gurney, the fall of spray in a down-cast shaft, offer simple and efficient means of ventilation, which are every where within reach. The only deficiency exists in the method of applying these means. That method must vary with every seam, to accord with local circumstances, and modes of working. It is no light matter to conduct the arrangements of a fiery colliery. A knowledge of the laws which govern the motion of fluids is indispensable. In addition to this knowledge, the most careful attention, the most watchful circumspection is required. No system will compensate for the want of these. Every part of the workings should be visited daily, by men who can be depended on, and a report of their condition made to the manager. Every air-course must be kept clear, and as all times passable; leakage of air must be carefully prevented, and the slightest accident immediately repaired. The distance of the face of work from the air-course will vary, according to circumstances and the mode of working. It is expedient, where practicable, to work the men in double shifts—one set in the day, and another set at night; any accumulation of gas is thus immediately observed. Where the seam is unusually fiery, the men should be supplied at the pit's bottom with lamps, properly trimmed, and invariably locked. The lamp of Dr. Clanny has many advantages, the principal of which is the greater quantity of light afforded by it, as compared with the old Davy. Proper plans of the workings, mapped up at short intervals, should be always kept, as well from motives of safety as of economy. Were these measures followed out in every colliery, we should hear less of explosions, and the awful loss of life attendant upon them. As a means of enforcing some such regulations, I look forward confidently to Government inspection as likely to be productive of great good; and without these, or equivalent precautions, no one system or scientific application can ever effect a remedy. In spite of all, there will occasionally be explosions. The colliers' life is a life of danger; we may lessen, but we cannot remove it. To speak of any ventilator as a panacia for explosions is fallacious. The ventilator may be perfect in its action, and yet the stoppage of an air-course, a fall from the roof, or the opening of a door, nullify its whole effect. An explosion may take place below, with its whole train of disastrous consequences, while the ventilator works on in peace above. It would be just as feasible to cure the defects of a long line of shattered and leaky atmospheric railway, by working an exhausting piston at one end, as to remedy the internal disorders of a colliery by drawing out the air at the pit's mouth. There is no remedy but caution, and efficient knowledge in the man who conducts the work. As a secondary means of promoting the better management of mines, the proposed establishment of a mining school will be of incalculable benefit. The success of similar institutions on the continent has proved their efficiency. In no profession is there greater demand for fertility of resources, quickness of adaptation, and general scientific knowledge; and yet in no profession, hitherto, has the importance of a suitable education been so little appreciated.

It is useless to rail on Government for slowness in the adoption of remedial measures. Their first duty is to make themselves competent, and then, but not till then, to decide upon a plan. In the mean time, it is the duty of all who have the management of mines entrusted to their care, to act now as though the contemplated supervision had already commenced; remembering that for every life lost through want of due caution on their part, they are morally, if not legally, responsible. J. R. JONES.

Blaenavon, August 21.

ON THE GENERAL SYSTEM OF ATMOSPHERIC TRACTION—AND M. PIATTI'S METHOD OF PROPULSION BY COMPRESSED AIR.

SIR,—The evils and expense attending the present system of railway transit have induced a great number of ingenious men, within the last few years, to devote themselves perseveringly to the discovery of an efficient substitute for the locomotive engine—a substitute which should possess, in a higher degree, the paramount requisites of safety, certainty of action, and economy. Plan after plan, and patent after patent, have been recorded in the columns of your Journal, and in other scientific periodicals; some dozens of specifications referring to the subject have found their way into the Enrollment Office; and the confused and heterogeneous mass of truth and error, practicability and absurdity, which these comprise has been paraded indiscriminately before the public eye, every inventor naturally seeking to claim for his own particular project the palm of general excellence and unquestionable utility. Yet, notwithstanding all these efforts, the locomotive continues to hold exclusive possession of the rail (except, indeed, upon sudden and special occasions), and railway shareholders still receive but a fraction of that dividend which would certainly be secured to them under a better and more improved system of working. A little consideration will lead us to the cause of this seeming anomaly, and will show us, I think, why it is that the indomitable industry thus manifested in the way of progression has failed to affect the highly important branch of mechanical science to which it bears reference, and which remains, for the time at least, comparatively stationary. Whenever, in any great speculative undertaking, a spirit of hope is succeeded by disappointment, and that some signal error of management, or some great miscalculation, happens to be developed by the onward progress of events, the evil consequence resulting radiates as from a centre, and a spirit of undue alarm and prejudice begins to operate upon the minds of all public bodies, chartered and constituted for any similar purpose.

It has been thus with the recent experiments in railway locomotion. So obvious were the errors of the existing system, and so anxious were engineers to substitute some other, which might seem to hold out a promise of amendment, that, on the appearance of Messrs. Clegg and Samuda's patent, in 1839, it speedily found advocates; and although the principle of atmospheric traction was new to the world, save as a passing suggestion, and that all knowledge of its working was entirely theoretical, yet a very brief period of time was allowed to elapse before it was seen in practical operation—first, between Dalkey and Kingston, then at Croydon, and subsequently upon a large scale on the South Devon Railway. The result of these adventures is well known to the public. The Dalkey line, a snug little family investment of a mile and three-quarters, or thereabouts, is, I believe, still in operation. The two more extensive undertakings failed, and were abandoned; but they were abandoned, and the last especially, with such precipitation, as to induce a very general feeling that there was something radically wrong in the traction principle altogether. And so, indeed, practically speaking, and as far as the wants of the community at large are concerned, there is; but the evil, or deficiency, does not extend nearly so far as is supposed; and, in common justice, it must be acknowledged, that the failures already experienced are more attributable in their completeness to the occurrence of an unforeseen succession of unfortunate accidents, than to the commission of any great error in judgment, prudence, or engineering skill. What are the well-authenticated facts of the case? The new system was adopted, because it seemed to promise many paramount advantages. It proposed effectively to keep the trains from running off the line—to render a collision impossible—to avoid all danger of accident and annoyance arising from the emission of sparks and smoke—to attain a higher velocity with a greater regularity of transit—and to do all these things at a considerably reduced expense; and practice has proved the truth of these anticipations in almost every particular but one—and that the last. The cause of failure, however, in this latter respect is very easily accounted for; and the explanation involves nothing whatever that is fatal to the system itself. One most formidable item of expenditure in the working of a railway, is involved in the consumption of fuel; and in the case now under consideration, the quantity consumed mainly depended upon two primary conditions—the mechanical accuracy of the longitudinal valve employed by the patentees, and the structure and effective condition of the stationary engines.

Now, it appears from a variety of observations and experiments, that the average quantity of coals consumed in a locomotive engine is at the rate of about 8 lbs., and in a good condensing steam-engine 5 lbs. per horse-power per hour; while in the stationary engines of Cornwall the rate of consumption has been gradually reduced, in many instances, to far below a quarter of the first-named quantity, or absolutely less than 1½ lb. per horse-power per hour. The directors of the South Devon Railway, anxious to approximate to this desirable ratio of practical economy, determined to spare neither pains nor expense in the building of their engines. Eight of these were accordingly ordered, with an aggregate power of 800 horses; the greatest care was bestowed upon the designs, and their construction was entrusted to the three most eminent manufacturers of the day. It appears, however (such is the fatality sometimes attending the best exertions of man), that notwithstanding all this anxious study and careful preparation, the working of these machines disappointed expectation to the utmost possible degree. Their consumption of fuel was most extravagant, and so strangely irregular, that some of them actually consumed nearly double the quantity of others. This was certainly a most unfortunate beginning, and, to make matters worse, the absence of the electric telegraph upon the line admitted of scarcely any intermission in the working of the engines.

One would have thought that the very climax of disaster had been reached. But no! There was something more to come yet. Experience was still wanting in the construction and management of the vacuum valve. It was left unprotected from the action of heat and rain and other injurious influences, and by degrees it gave way, and slowly admitted the atmosphere. Then, indeed, the engines were worked, of necessity, to the very utmost of their power; the fires were forced, the boilers were found inadequate to supply the required quantity of steam, and every refined principle of science, every beautiful elaboration of mechanical philosophy embodied in the theory and construction of these important machines, was totally subverted by the violence of over action and extreme velocity.

Such was the state of affairs during the first few months of 1848; but the cardinal points of failure upon which this great mischief hinged had principally originated in accident, and they were not beyond the reach of remedy. The engineer's original estimate of the working cost of the line upon the atmospheric system was 1*s.* per train per mile; whereas, at the early part of the period referred to, the actual expenditure was just treble this amount. In Aug. and Sept., however, a reduction of no less than 38 per cent. had been effected; and this reduction was still continuing, when a sudden stop was put to the proceedings. A heavy disappointment sometimes blinds the judgment, and leads to quick decisions, not always in accordance with mature reflection. On the 29th of August, a hasty resolution of abandonment, proposed by Lord Courtenay, was carried, after considerable discussion, by 11 votes out of 18; and it appears as a marked feature of the case—a feature which may, or may not, have exercised some involuntary influence over this decision—that no less than 10 of the majority were directors of the Great Western, and the Bristol and Exeter Railways.

These various facts then go to prove that the discontinuance of atmospheric traction, on the South Devon line, was rather the result of a series of unfortunate casualties than the consequence of any fault in the system radically irremediable. As for the working cost exceeding the engineer's estimate, that is not to be wondered at in a great experiment like this. On the opening of the railway between Liverpool and Manchester, the amount of coke burnt in the engines was considerably more than double the estimated quantity; and, instead of using, as at present, but 8 lbs. per horse-power per hour, 18 lbs. were found necessary. And again, with regard to the vacuum valve, there is no great practical difficulty about this. If the particular description of valve supplied to the company by Messrs. Clegg and Samuda was difficult and expensive to maintain in working order, surely the metallic spring valve, patented by Messrs. Clarke and Varley, or the economic close tube system of Messrs. Cunningham and Carter, are not open to these objections. But the great mistake was evidently committed in the engines. Upon the accurate working of these prime-movers depended the whole economy of the system; and to ensure the very perfection of efficiency and workmanship, their construction (as before stated) was entrusted to the three most eminent manufacturers of the day. It may seem a strange remark to make, but I really believe that this very circumstance was the root of all the mischief. I trust the observation will not be misconstrued. To doubt the engineering skill of these gentlemen would be absurd and ridiculous, but to question the fact as to whether *their system of practice* extended to the manufacture of *the most perfect and economical steam-engine known to man* will, perhaps, be considered pardonable. The manufacture of the *Cornish engine* is well known to be local, peculiar, and exclusive, and it is more than probable, that if the engines in question had been constructed at the foundries of Hayle, from the designs and under the superintendence of regular Cornish engineers, they would not only have realised the economy required, but they would even have exceeded the extreme limit which calculation had assigned in this respect. I am aware it has been observed, that the principles to which these machines owe their great superiority are inapplicable to rotary or double-acting engines.

In answer to this opinion, I shall merely refer to the printed report of Mr. Wicksteed upon the duty of a *double engine*, working at the Tincroft Mines, which lifted 56,525,072 lbs. 1 foot high by a bushel of coals—(*Transactions of the Institution of Civil Engineers*, vol. ii., page 64). In connection with this part of the subject, and in further proof of the position here taken, that a great mistake was committed in the design and building of the stationary engines, I quote the following very curious sentence from a pamphlet, addressed to the proprietors of the South Devon Railway by the chairman of the board of directors, and, singularly enough, passed by without a word of comment. "It was considered necessary, with a view to economise the use of fuel, *that expansion gear should be applied to each engine.*" Here it is evident that an extreme moderation of expenditure was sought after with great earnestness, and yet the very soul of economy in the application of steam-power was, in the outset of these proceedings, altogether forgotten, or dispensed with! Take but the principle of expansion from the Cornish engine, and you at once reduce its duty by 60 or 70 per cent. But I think I have said enough to show that the total exclusion of the atmospheric system from railways, and the prejudice existing against it in the public mind, in consequence of this last disastrous experiment, are circumstances based upon no solid foundation, nor have they arisen from the existence of any fatal or irremoveable defects of principle.

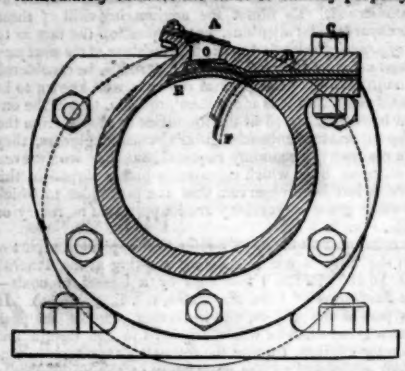
The real fault of the atmospheric traction principle is one of degree only; its available power is confined within such narrow limits. The tube generally employed in practice is 15 inches in diameter, which gives an area of 176 inches; and this, supposing a pressure of 8 lbs. to the square inch, furnishes a moving force of 1408 lbs. Now, under no circumstances or emergencies whatever, can this amount of power be increased: hence, unless the traction tube is considerably enlarged in diameter at certain points of the line, the gradients are necessarily restricted in amount of inclination. And it is essential that we should take another circumstance into account, bearing closely upon the fact of the narrow limit of attainable power. Either load or speed must not be extended beyond a given, and a rather confined, boundary. In Mr. Robert Stephenson's Report to the Directors of the Chester and Holyhead Railway, we find, in table 3, the details of a great number of experiments performed on the line between Dalkey and Kingston, with trains of different weights, from 23 to 65 tons, and under varying conditions of tubular exhaustion, from which it appears that the maximum uniform velocities were very moderate, and did not exceed those commonly attained with ordinary trains propelled by a locomotive. It is shown, moreover, by close computation, founded upon actual trial, that with the arrangements existing at Dalkey, and on a gradient of 1 in 115, with a train weighing 26½ tons, the mere resistance of the air at a speed of 50 miles an hour, at the most moderate computation, would absorb the whole power transmitted to the train; and that to effect this velocity, under the circumstances, an additional power of at least 100 horses would be required. It is proper to observe, that the height of the barometer in the experiment upon which this calculation rested, was 18·5 inches. This elevation of the instrument could obviously be exceeded; but it has been incontestibly proved; that working under circumstances of extreme exhaustion is accompanied by a most wasteful expenditure of power; for the air-pump expels at each stroke a certain quantity *by measure*, without any regard to weight or elasticity; and hence it must necessarily be worked at a greatly increased velocity, to maintain an unimpaired vacuum when the contents of the tube are in a high state of rarefaction, or the leakage of the apparatus will nullify its effect.

Seeing that there is this narrow limit to the transmission of power by the direct pressure of the atmosphere, various efforts have been made to extend it. The first, and most obvious idea, would be to increase the size of the tube, but such an expedient is inadmissable in practice. Already the cost of applying the atmospheric apparatus is estimated, by Mr. Robert Stephenson, at 11,000*l.* per mile; though this, it is to be observed, is not for a single, but a double line of railway, as restricted means of transit on any important line of communication would be considered very inexpedient, to say the least of it. The next conception would probably be to dispense with a vacuum altogether, and employ condensed air, and for this application of elastic force two or three patents have been taken. In one of these, there is used a machine possessing all the working characters of a locomotive—pistons, cylinders, driving wheels, &c. It is supplied with necessary power through the medium of a pipe laid between the rails, with which it is capable of communicating. But any plan founded on this principle only gets rid of a portion of the difficulties which encumber the locomotive. The traction principle is not altered; it still depends upon adhesion, and embraces all its concomitant difficulties. The best and most simple application of condensed air to this purpose is that of Piatti. His invention has been exhibiting for some time past at the Rosemary Branch Tavern, Peckham, and its merits would certainly have secured it a fair trial long ere this, upon a scale of practical magnitude, had it not been for the influence of those untoward events to which reference has already been made in the present communication. It consists of a tube about eight inches diameter, provided with a moveable air-tight piston, which is attached to the train of carriages in the ordinary way; one side of the piston is in free communication with the atmosphere, the other is acted upon as occasion requires, by compressed air, of about 45 lbs. to the inch, from a stationary reservoir. As the tube is but little more than half the diameter of the ordinary "atmospheric," it offers little more than a fourth of the area, and, consequently, requires about four times the pressure to make its moving power equal to this, an effect which is obtained by the stated pressure of 45 lbs.; but whereas, as before said, the extreme limit of atmospheric pressure upon the vacuum system being once reached, no circumstances, however urgent, can enable us to increase it, even by the amount of a single pound; in this case it is just the reverse, and should it be requisite to dispatch a heavy train, to travel with greater velocity, or to surmount a series of steep acclivities, an additional atmosphere is thrown upon the piston with the greatest ease. When in the last-named case the summit of an incline has been reached, communication with the reservoir is closed, and the condensed air already within the tube is allowed to act expansively; and in this way the power accommodates itself with effect and economy to the principal inequalities of the line.

But there is another point to which I would call attention. The valve is formed of leather, to which a layer of vulcanised India-rubber is attached, and the immense pressure from within the tube operating upon this elastic cushion, renders the sealing of the tube almost hermetical. The better to appreciate the value of this excellent arrangement, we must again refer to Mr. Robert Stephenson's report, the first and second table in which are devoted to an interesting record of experiments on leakage. From an examination of these, it appears, contrary to theoretical anticipations, that the descent of the mercury in the barometer guage is surprisingly uniform, from 22 to 7 inches in height, from which we may conclude that equal quantities of air have entered the tube in equal times. This is, doubtless, at variance with what might have been anticipated, on the supposition that the apertures through which the leakage takes place remain uniform during the fall of the barometer. "*A little consideration, however, is sufficient to show that the closeness of the longitudinal valve will vary with the pressure, and, therefore, when the vacuum in the tube is high, the pressure being increased, the apertures are proportionably diminished.*"

Considering, therefore, these several important points in Piatti's system and especially the power and unquestionable simplicity of the contrivance, I truly believe that it is well worth the while of all those whose capital is embarked in railway enterprise to investigate more clearly the merits of this invention. If the system but once had a fair trial upon a moderate scale, and was worked by one or two Cornish engines of first-rate build and surplus power, and if these engines were supplied with steam of a high pressure, and, further, that the principle of expansion were carried as far as possible—this latter function of the engine being in

conjunction with the micrometer screw of the "cataract," operated upon by self-acting mechanism, in order to suit circumstances—there is not a question but that a demonstration of economy would ensue, which would immediately enhance the value of railway property. I think the subject itself exceedingly interesting; and I will, therefore, forward a few further particulars next week, which pressure of time obliges me at present to omit.—ISHAM BAGGS. *Aug.* 22. —



DESCRIPTION.

A is the weather board.
B, a moveable iron-plate for fastening down the valve by means of the bolts, C.
F is the position of valve when opened by coulter.
E is the same, when closed by the piston. At O the valve is strengthened throughout its entire length by a flat metallic protector.

STEAM-ENGINES OF THE ROYAL NAVY.—The following table has been compiled from the list of the steamers in the navy, given in Messrs. Main and Brown's work on the marine engine, and will, no doubt, be interesting to our readers:—

Name of firm.	Pad. wheel.	Screw.	Total h. p.
Seaward and Co.	(horse power) 5790	(horse power) 1920	7710
Maudslay and Co.	5520	1510	7030
Boulton and Watt	3365	—	3365
Miller and Ravenhill	1531	1222	2753
Penn and Co.	1890	748	2638
Messrs. Rennie	2017	150	2167
R. Napier	1475	580	2055
Fairbairn	1893	—	1890
Fawcett	1824	—	1824
Forrester	910	—	910
Scott and Sinclair	760	—	760
Rigby	515	—	515
Butterly and Co.	280	—	280
Caird and Co.	240	—	240
Coates	144	—	144
Total	28,151	6130	34,281

The value of this machinery, at 50*l.* per horse power, would be 1,714,050*l.*

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SPAIN AND PORTUGAL.—Vigo, Oporto, Lisbon, Cadiz, and Gibraltar, on the 7th 17th, and 27th of the month.

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The title deeds of the company having recently been confirmed by Act of Parliament, they are now enabled to OFFER FOR SALE the FEE SIMPLE of every portion of them, consisting of FOUR HUNDRED THOUSAND ACRES, in various parts of the colony; but more particularly invite the attention of emigrants to the eligible districts of Circular Head and Emu Bay.

The company's district at Circular Head contains 20,000 acres, of which 4000 acres lie in the Peninsula, and the residue on the adjoining main land. The climate much resembles that of Devonshire, being remarkably pleasant and salubrious, free from drought in summer, and frost in winter—thus enabling the farmer to carry on his operations throughout the year; and the soil on the main land, though for the most part heavily timbered, is some of the richest in the island, being of a deep black vegetable mould, very friable, easily worked, and producing luxuriant crops of potatoes, wheat, and every description of European grain, fruits, and vegetables, as shown by the result of a thriving agricultural population, who have already cleared and cultivated upwards of 2000 acres there. The company's township of Stanley now boast a stone-built church, holding 600 persons, schools for boys and girls, with residences for masters and mistresses, a medical practitioner, a stipendiary magistrate, police court, a mill, more than sufficient for all the inhabitants, with all the appliances of a highly civilised community, and the harbour will accommodate vessels of 300 tons burden. Those who are confined as to means can defer the clearing their lands until they have saved some money, which they can soon do, labour being in great demand and food cheap. Timber for sawing and splitting abounds—frost and snow are unknown, and the soil is a rich deep loam, peculiarly favourable for agricultural purposes. The population on the company's lands, according to the census of 1848, was 900, possessing 250 cattle, 700 swine, and 35 horses; they raised produce in 1847 to the amount of £15,000.

There are no convicts employed, nor any stationed within 150 miles of these settlements. The company possess all descriptions of live stock, such as sheep, cattle, horses, swine, and deer, of the purest breed, sent out from England at great expense, and large sums of money have been expended by the company upon their several locations on roads, bridges, farm-buildings, and granaries.

Possessing, as the company's lands do, the various advantages of fertile soil, and a fine climate, with frequent and ready access by water to the neighbouring markets, an abundance of live stock, seeds, farm implements, and stores for sale, and a large agricultural population already located, it must be evident that the newly-arrived and inexperienced emigrant can at once commence operations, without loss of time or unprofitable outlay of capital; they, therefore, offer for sale, 80 acre sections of freehold land on the following terms.—Price £2 per acre. Each purchaser at Emu Bay to have the privilege of purchasing a quarter of an acre allotment in the township of Burnie. A purchaser may have a free passage, or receive 20*l.* to provide himself with one, with further assistance to families. Half the purchase-money may remain on interest at 5 per cent. for 7 years.

The company reserves to itself the right to fords, ferries, and the formation of bridges, and dams across rivers and streams, as well as to the use of indigenous timber, and materials for works of general benefit. It retains also the right of laying out and constructing roads through all the alienated lands—ensuring, however, compensation for damage to parties by their formation, and of making the Colonial Fencing Act applicable to adjoining tenants.

By order, GEO. H. HOWELL, Secretary.

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The Hon. W. E. FITZMAURICE, Deputy Chairman.

ASSURANCES for LIFE, of every description, are effected upon every mode of appropriation *of the whole profits*, and annuities granted.

The policies are indisputable, and are a complete security for all purposes. Loans granted to assurers and policies purchased.

Proposals for assurances, prospectuses, and tables, may be had at the office of the society. THOMAS PRITCHARD, Resident Director.

Offices, 54, Charing-cross.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The NEXT MEETING will be HELD at BIRMINGHAM, and will COMMENCE on WEDNESDAY, the 12th of September, 1849. 50

2, Duke-street, Adelphi. JOHN TAYLOR, F.R.S., General Treasurer.

BRITISH ASSOCIATION, BIRMINGHAM.—The Proprietors of Collieries and Mines are respectfully informed, that a FULL-SIZED WORKING MODEL of "FOURDRINIER'S PATENT SAFETY APPARATUS," for the PREVENTION of ACCIDENTS in PITS, caused by the breakage of ropes or chains, will be EXHIBITED at the approaching meeting. 51

ROYAL GEOLOGICAL SOCIETY OF CORNWALL.—The THIRTY-SIXTH ANNUAL MEETING of this Society will be HELD in the MUSEUM on FRIDAY, the 5th of October next, at noon.—The officers and council will assemble in the same place at Eleven o'clock. 52

It is respectfully requested that communications intended for the meeting may be forwarded to us at the earliest convenience of the authors. By order,
SAMUEL PIDWELL, } Secretaries.
L. R. WILLAN, }

N.B.—The usual ordinary will be held at the Union Hotel at Three o'clock.
Penzance, August 28, 1849.

ROYAL COLLEGE OF CHEMISTRY, *OXFORD-STREET, LONDON.* 53

The PRACTICAL COURSE OF INSTRUCTION in this INSTITUTION is under the direction of Dr. A. W. HOFMANN and assistants.

The NEXT SESSION will COMMENCE on MONDAY, the 1st of October next, and end on Saturday, the 23d of February, 1850.

The FEE for students working every day during the session, is	£15	0 0
" " " four days in the week, is	12	0 0
" " " three days in the week, is	10	0 0
" " " two days in the week, is	7	0 0
" " " one day in the week, is	5	0 0

Hours of Attendance from Nine to Five.

Further particulars may be obtained on application to
WILLIAM JOHNSON, Secretary.

LIVERPOOL COLLEGE OF CHEMISTRY. 54

PATRON.
HIS ROYAL HIGHNESS PRINCE ALBERT.
DIRECTOR AND PROFESSOR.
DR. SHERIDAN MUSPRATT.
ASSISTANTS—MR. G. HAMILTON, and MR. J. BROWN.

A working place is appropriated to each student, who provides himself with all apparatus, platinum and silver solutions, alcohol, substances for original research, platinum wires, and filtering paper. The common re-agents, and gas and fuel, are supplied by the Professor, who is present from Ten till Five o'clock every day during the session, and from Six till Nine o'clock on the evenings of Mondays, Wednesdays, and Fridays.

Each student proceeds by himself in a series of experiments, which make him acquainted with the re-actions—*id est*, the chemical properties of all the more commonly occurring bodies. When perfectly familiar with these phenomena, he is taught, by a systematic course of experiments, all necessary manipulations and processes, by making analysis of a variety of substances, so prepared by the Professor, as to lead from the simple to the more complex cases. When expert in qualitative, he enters upon a course of quantitative analysis. More advanced students engage in original research.

A prospectus of fees and regulations, for day or evening attendance, may be had on application at the laboratory, which is situated at the back of Canning-street.

Just published,

DR. MUSPRATT'S PLATTNER ON THE BLOWPIPE. 55

SECOND EDITION.

The USE of the BLOWPIPE, in the EXAMINATION of MINERALS, ORES, and other METALLIC COMBINATIONS.

By Professor PLATTNER, Assay Master of the Royal Saxon Smelting-Works.
Edited, with numerous Emendations, by Dr. SHERIDAN MUSPRATT, Professor of the Liverpool College of Chemistry, &c.—Illustrated by numerous engravings.
In One Volume, Octavo, price 10s. 6d.

Baron Liebig's Preface.

"Dr. Sheridan Muspratt's translation of Plattner's excellent treatise on the use and application of the blowpipe, has been executed with fidelity and ability, and I consider its publication in England of essential service. The translated edition is further enhanced by Dr. Muspratt's annotations."

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"Dr. Muspratt, in a comparatively short time, besides bringing out a translation of Plattner's renowned work on the blowpipe, published two memoirs, establishing at once his intimate acquaintance with mineral and organic chemistry."

Plattner's Work on the Blowpipe is now used in all the Laboratories of Europe.

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GEOLOGY.—Persons wishing to become ACQUAINTED with this interesting BRANCH OF SCIENCE, will find their STUDIES greatly FACILITATED by means of ELEMENTARY COLLECTIONS, which can be had at TWO, FIVE, TEN, TWENTY, or FIFTY GUINEAS each, arranged and sold by Mr. TENNANT, 149, STRAND, LONDON. 56

A COLLECTION for FIVE GUINEAS, which will illustrate the recent works on Geology, contains 200 specimens, in a mahogany cabinet, with five trays—viz.:

MINERALS which are the components of rocks, or occasionally imbedded in them—Quartz, agate, calcedony, jasper, garnet, zeolite, hornblende, angite, asbestus, felspar, mica, talc, tourmaline, calcareous spar, fluor, selenite, baryta, strontia, salt, sulphur, plumbago, bitumen, &c.

METALLIC ORES.—Iron, manganese, lead, tin, zinc, copper, antimony, silver, gold, platina, &c.

ROCKS.—Granite, gneiss, mica-slate, clay-slate, porphyry, serpentine, sandstones, limestones, basalt, lavas, &c.

FOSSILS from the Llandeilo, Wenlock, Ludlow, Devonian, carboniferous, lias, oolite, wealden, chalk, plastic clay, London clay, and crag formations, &c.

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TO THE GUARDIANS OF UNIONS, and OTHERS having the CHARGE of the POOR, and to the PUBLIC IN GENERAL.—The BOARD OF HEALTH having, in their first circular, recommended the use of BRANDY in the medical treatment of persons labouring under the premonitory symptoms of *Cholera*, we think it right to publish the following important TESTIMONIALS in favour of our PATENT BRANDY, which has long been employed in preference to foreign for medicinal purposes, at St. George's, St. Thomas's, Guy's, and the Westminster Hospitals, and also in the Manchester, Bristol, and Brighton Infirmaries. 58

EXTRACTS FROM TESTIMONIALS.

"Your Patent Brandy contains as pure a spirit as the best varieties of foreign brandy. (Signed) EDWARD TURNER, Prof. of Chemistry, London University."

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"Your Patent Brandy is free from uncombined acids, which exist, more or less, in most of the brandies imported from France. (Signed) JOHN THOMAS COOPER, Professor, at Guy's Hospital."

"*Grenadier Guards Hospital.*

"The two samples of your Patent Brandy I had an opportunity of laying before the Board of Officers, which sat at the Regimental Hospital last Saturday. Every member of the board approved of the brandy, and have ordered that it shall be used for the sick. Messrs. Betts & Co." (Signed) J. HARRISON, Surgeon-Major, Grenadier Guards.

We beg to announce to all persons desirous of purchasing the GENUINE PATENT BRANDY, that the same can be procured in every town in the kingdom, at 3s. per bottle, each bottle being secured by our Metallic Capsule, or direct from the distillery, in quantities not less than Two Gallons, at 16s. per gallon.

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East Temple Chambers, London, or Tunbridge Wells, Kent, stating name, address, and capital at command.

N.B.—Houses cured of damp. The produce of soft stone quarries, chalk, plaster of Paris, wood, pasteboard, and all absorbent materials indurated to resist frost, vermin, &c. *LICENCES GRANTED.*

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1806 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, on £9 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 60

DENT'S PATENT DIPLIEDOSCOPE,

or Meridian Instrument, is now ready for delivery.—Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

PATENT RAILWAY AND OTHER CARRIAGE AXLES, MANUFACTURED BY THE

PATENT SHAFT AND AXLE-TREE COMPANY, *BRUNSWICK IRON-WORKS, WEDNESBURY, STAFFORDSHIRE.* 61

The Judicial Committee of the Privy Council having declared that the AXLES MADE BY THE PATENT SHAFT AND AXLE-TREE COMPANY had proved a PUBLIC BENEFIT in greatly conducing to the SAFETY of RAILWAY TRAVELLING, the exclusive right to manufacture has been extended for four years, on condition that the practice of charging a moderate price, proved hitherto to have been pursued, should be made imperative.

It was also proved that these Axles were in general use—upwards of 100,000 having been supplied to the English and Continental Railways, among whom are the London and North-Western, the Midland, and the Great Western; that they had withstood frequently severe tests applied by the engineers of these railways for the purpose of experiment, and others still more severe to which they were accidentally subjected in use. In one such instance a Patent Axle, 4¼ inches in diameter, sustained the whole force of a heavy train going at the rate of 60 miles an hour, by which it was twisted and bent nearly double, without showing the least fracture.

The patent principle of manufacture causes the axles to be equally strong in all directions, for the "faggot" is made in a cylindrical form, by the external bars being rolled of such a section as to fit accurately around a centre bar. This faggot, however large, is perfectly welded throughout its whole length at one heat, avoiding the necessity of the frequent heating and hammering of the ordinary mode, by which much risk is run of imperfectly welding, burning, and otherwise injuring the iron.

The use of this principle, combined with experience gained of the quality and admixture of the iron and mode of treatment best adapted to resist the strain to which an axle is subjected, enables the Patent Shaft Company uniformly to supply safe axles.

In all cases where the use of the Patent Shaft Company's Axles are specified for, it is respectfully recommended that information be sent to the works; for, although every Patent Axle is stamped with the company's name, worthless axles, made at an expense little beyond that of common bar-iron, have, in many instances, been substituted.

It was given in evidence before the Privy Council, by Robert Stephenson, Esq., M.P., that having, in consequence of an accident, tested a number of such common axles, he found 48 out of 50 broke so easily as to be perfectly unfit for use: that he ordered them all to be removed, and that he has since recommended the Patent Axles to be used exclusively.

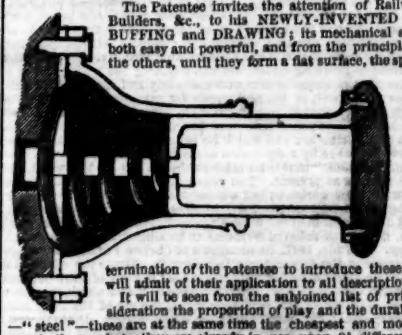
The trial of the Patent Shaft Company's Iron is solicited in cases where the power to resist a great strain is of importance. Evidence can be afforded from several railway engineers, of great economy having resulted from its use, in preventing the breakage to which their coupling chains were frequently previously subjected, particularly on the Midland Railway, where the heavy mineral traffic subjects these chains to unusual strains.

Iron manufactured on the patent principle is also recommended for coach and carriage axles, for, if not afterwards injured by the coachsmith, all risk of breakage will be avoided.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

JOHN BROWN'S CONICAL RAILWAY BUFFER, BEARING AND DRAW SPRINGS. 62

Guaranteed 12 months.—Each spring to carry from 4 to 5 tons.



The Patentee invites the attention of Railway Authorities, Carriage Builders, &c., to his NEWLY-INVENTED CONICAL SPRING, for BUFFING and DRAWING; its mechanical action will be found to be both easy and powerful, and from the principle of each coil falling within the others, until they form a flat surface, the spring can sustain no injury from any blow or pressure when driven home; the amount of play in these is much greater, in proportion to the price, than in any other springs. The use also of wrought-iron cylinder plungers (which the patentee has been the first to introduce), will at once be seen to offer a security against breakage, hitherto unknown in any box buffer spring. It has been the determination of the patentee to introduce these springs at such prices as will admit of their application to all description of railway plant.

It will be seen from the subjoined list of prices, that, taking into consideration the proportion of play and the durability of the material used—"steel"—these are at the same time the cheapest and most effective Buffer Springs now in the market; they are already in use upon 21 different lines of railway in the United Kingdom.

PRICES PER SET OF FOUR BUFFERS, COMPLETE,
With Wrought-Iron Buffer-Rods, or Cylinder Plungers.

For Mineral Waggons—9-inch diameter at base. 3-inch play	£6 0 0
For Goods Waggons, Vans, &c.—10-inch ditto, 3½-inch ditto	7 10 0
For Cattle Waggons, Engines, Tenders, &c.—11-inch ditto, 4½-inch ditto	9 10 0
For Passenger Carriages—10-inch ditto, 7-inch ditto	11 10 0

If with cast-iron plungers, 9 10 11-inch,
5s. 10s. 15s. per set less than the above.

Draw springs, with 2½ 3½-inch play,
32s. 40s. per pair.

Delivered in Sheffield, Birmingham, or Glasgow.

The BUFFERS may BE SEEN at the Patentee's, ATLAS STEEL and SPRING WORKS, SHEFFIELD, and upon application to his agents, as under, where further information may be obtained:—

LONDON—Mr. J. Freeman, 19, Artillery-place, Finsbury.
GLASGOW—Mr. A. Tolmie, 166, Buchannan-street.
BIRMINGHAM—W. G. Tilfourd, 84½, Great Charles-street.
NEWPORT (Monmouthshire)—Mr. R. W. Toogood.

IMPROVED LIFTING JACKS, 63

IMPROVED RATCHET JACK. HALEY'S PATENT LIFTING JACK.

MANUFACTURED BY
W. AND J. GALLOWAY,
PATENT RIVET WORKS,
MANCHESTER.

*** The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use.

DAMP AND GASEOUS EXHALATIONS. SANATARY MEASURES. 64

All MEMBERS of BOARDS OF HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of fœtid refuse, tending to produce a miasmatic state of atmosphere. In situations so effected, the impervious quality of the ASPHALTE of SEYSSEL renders it the most perfect PAVEMENT or COVERING that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preventing the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts:—

"In 1839, I superintended the construction of a house of three stories on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of SEYSSEL ASPHALTE,* less than half an inch thick, over which coarse sand was spread.

Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ in. above the external surface of the soil, and only 19½ in., at the utmost, above that of the sheet of water.

The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

* This method has been adopted at the new Houses of Parliament.

Seyssel Asphalte Company, Stangate, London. I. FARRELL, Secretary.

London: Printed by RICHARD MIDDLETON, and published by HENRY ENGLISH (the proprietors), at their offices, No. 26, FLEET-STREET, where all communications are requested to be addressed. [*September* 1, 1849.